HOW TO DRAW
MANGA
SPECIAL EDITION
GIANT ROBOTS
Hikaru Hayashi

HOW TO DRAW MANGA

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HOW TO DRAW MANGA: Giant Robots
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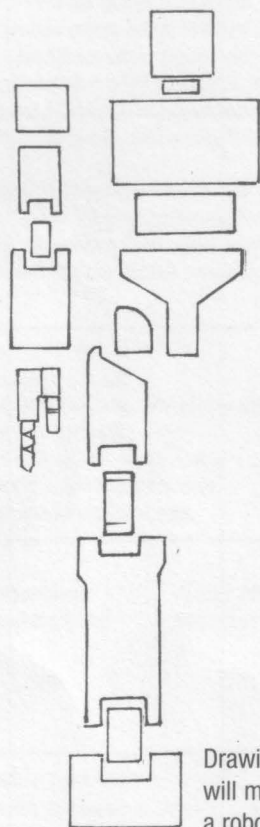
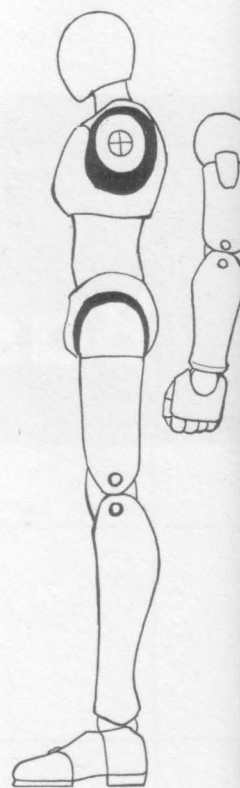
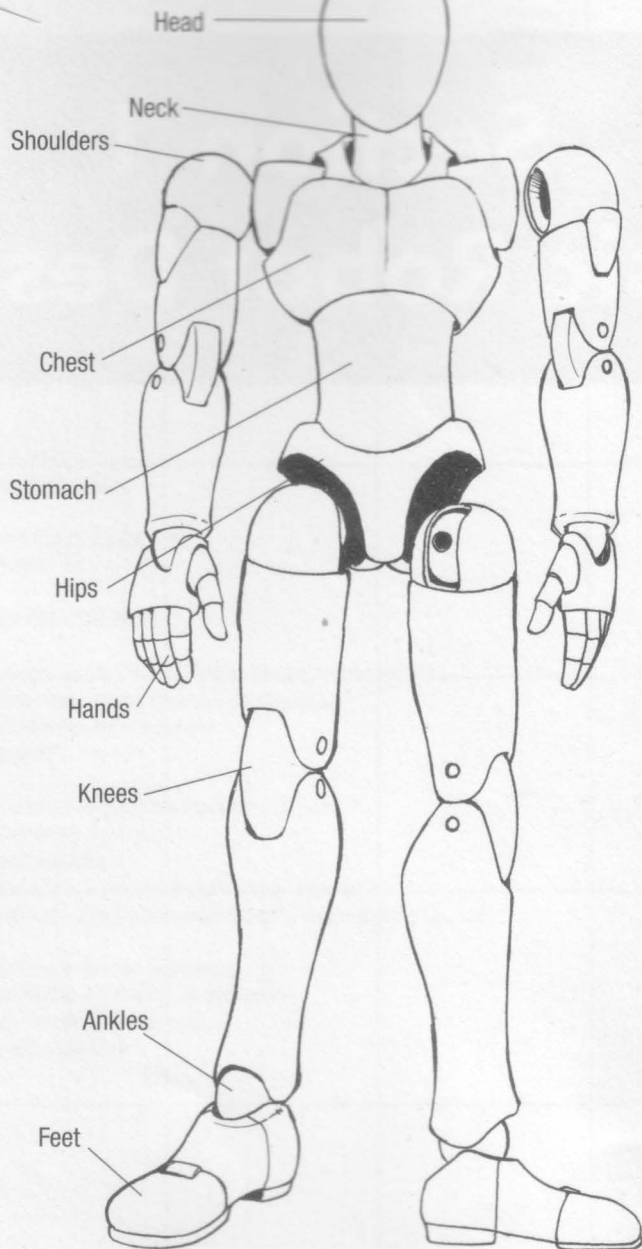
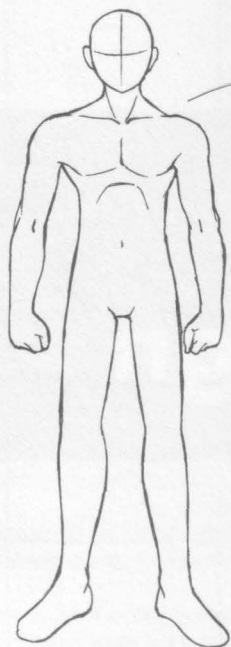
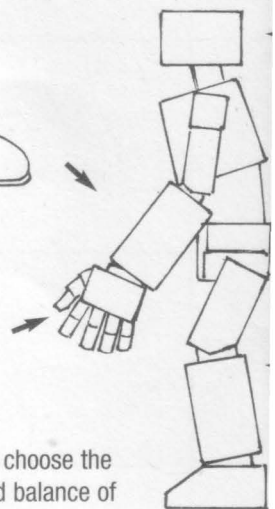
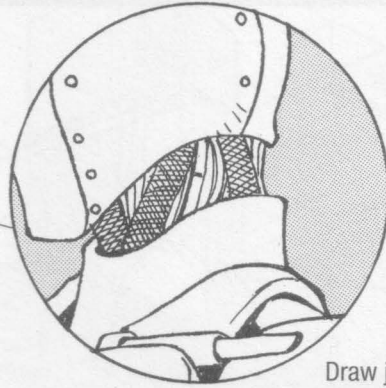
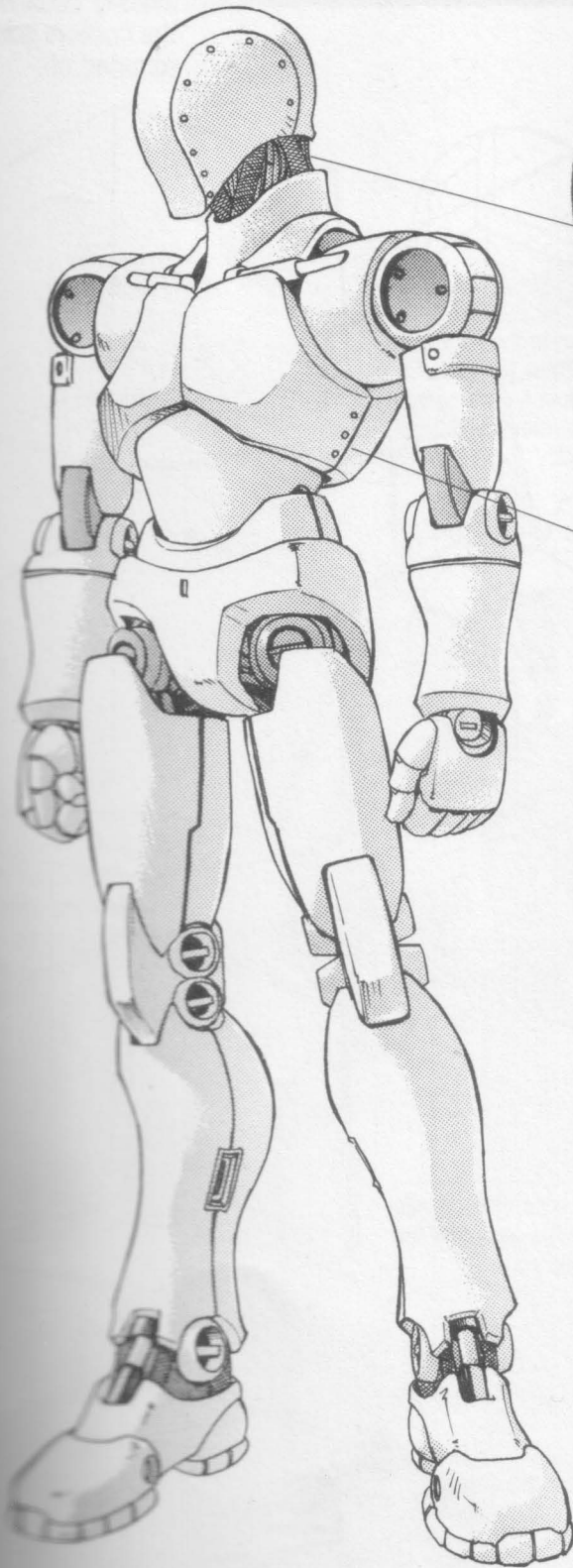
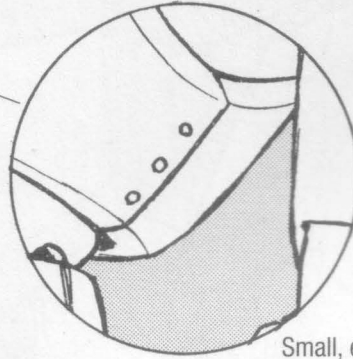
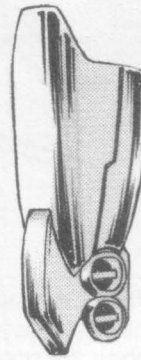
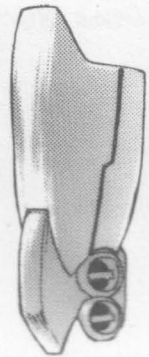
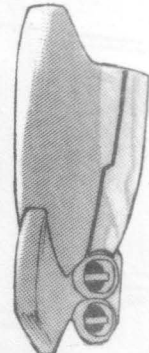
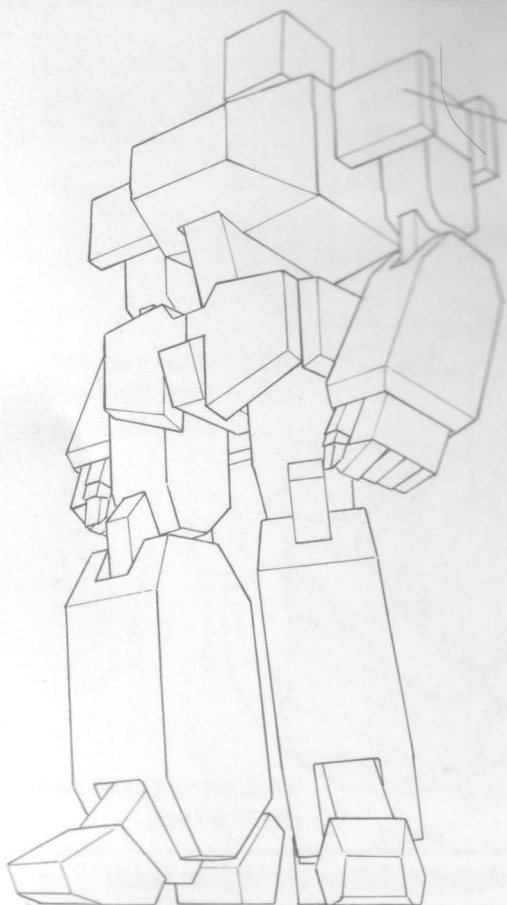
Section 1
Basic Robot Design

Full Body Start with a Human-shaped Figure

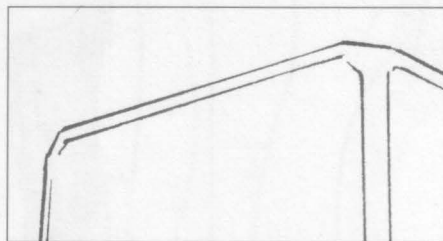
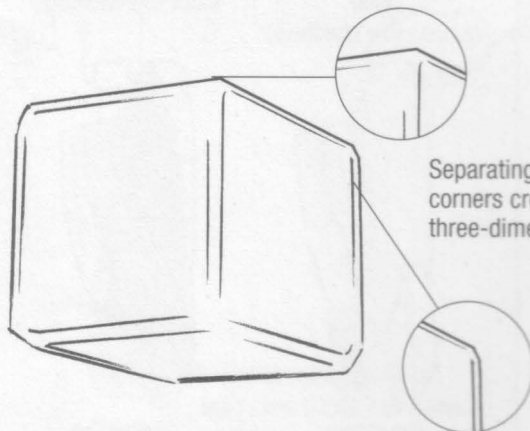
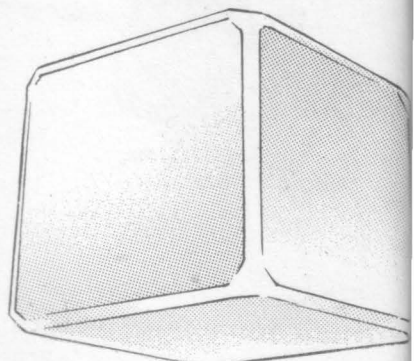
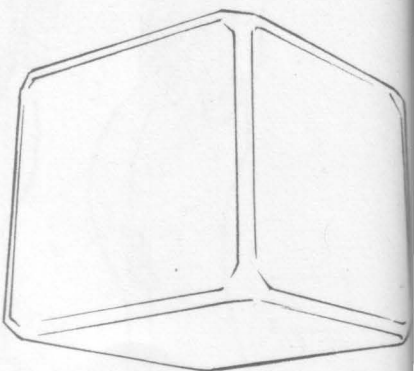
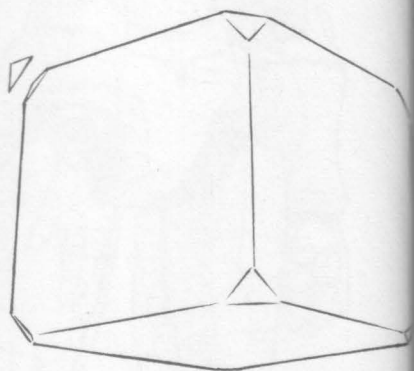
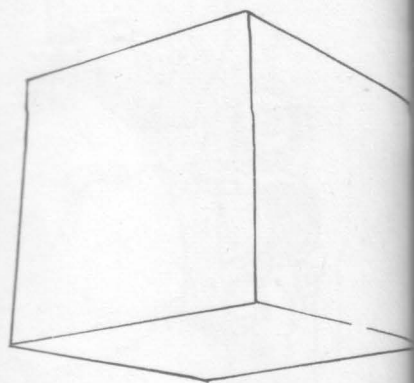
Think of the parts of the body wh drawing.

Drawing squarish parts will make it look more like a robot, i.e., man-made.

You are free to choose the size, shape and balance of the parts.

Draw Robot-like Figures Using Only Basic Parts.

- Draw big, bold joints.
- Give the surface a strong metallic contrast.

Full Body Robots Comprised of Parts with Straight Lines

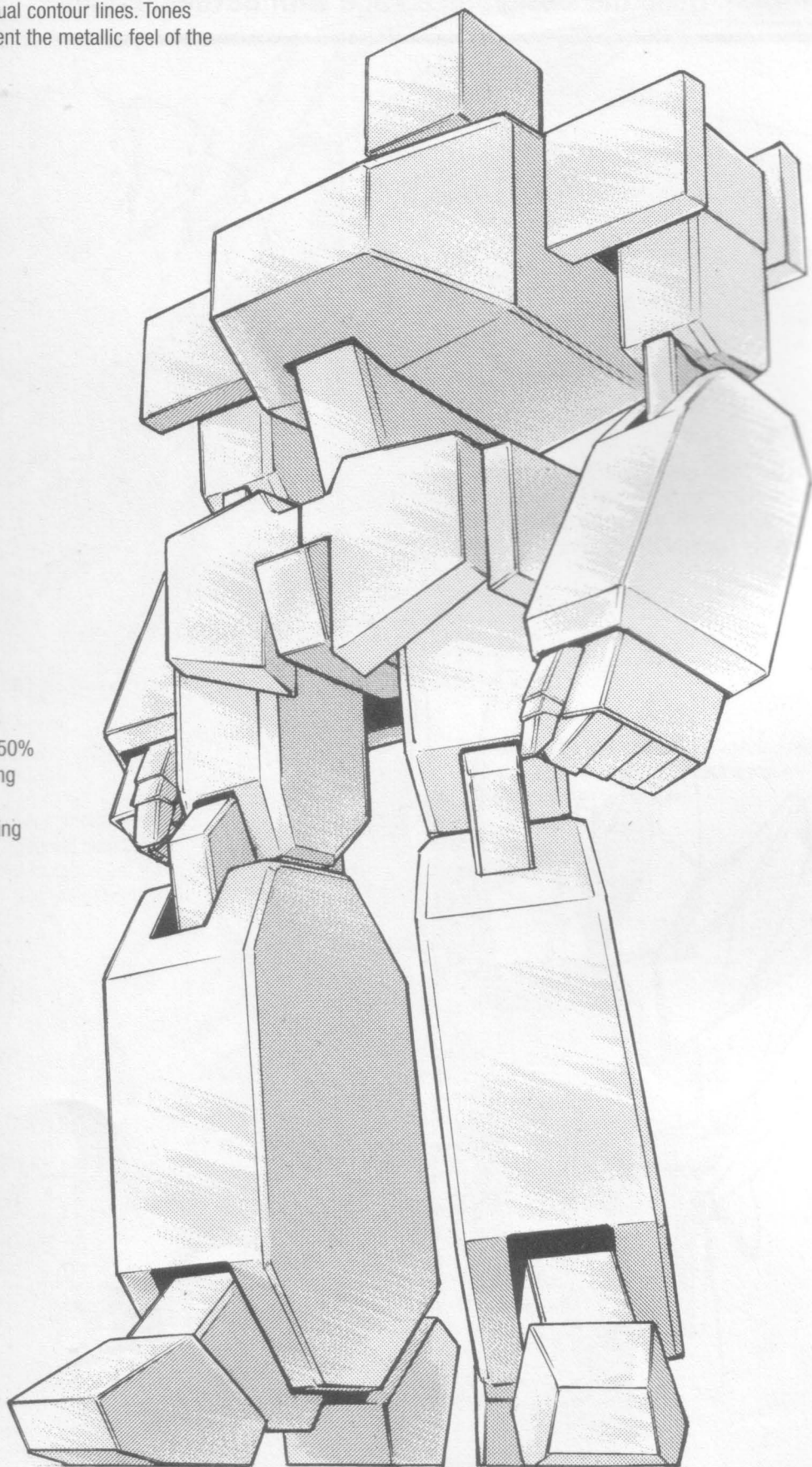
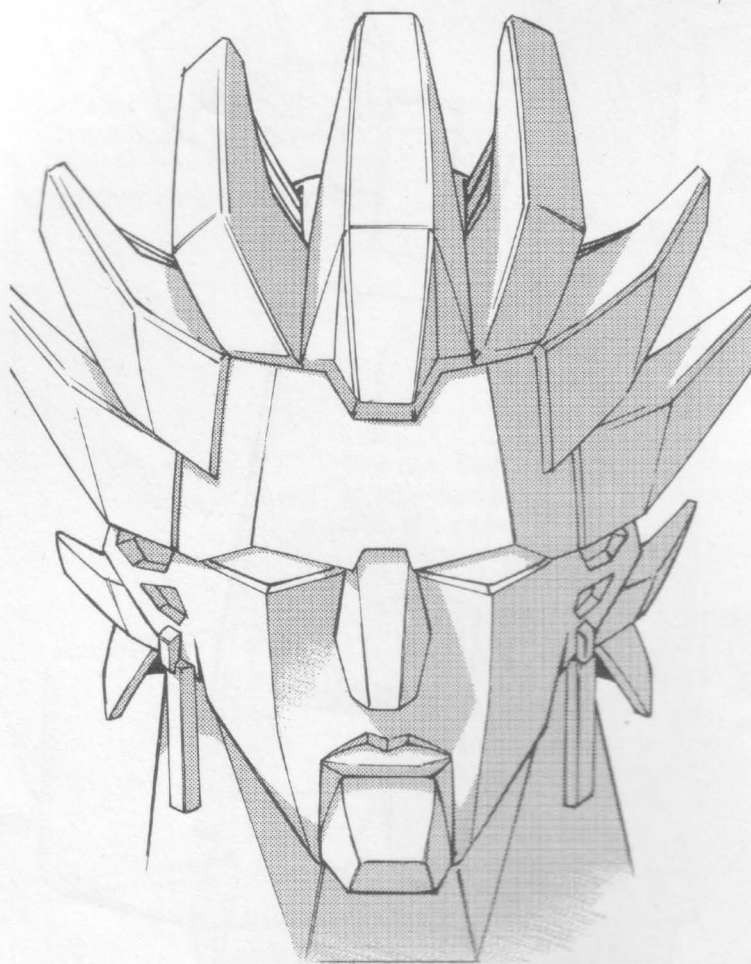
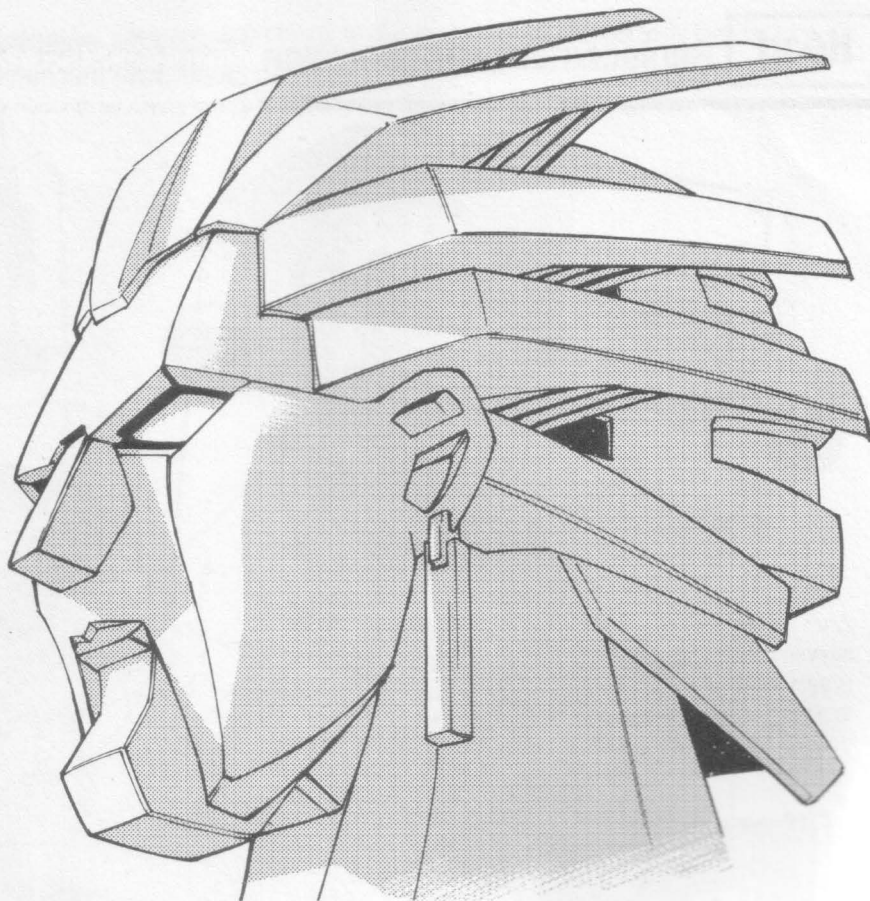
A square part becomes a metallic looking cube when the corners are rounded off.

Robot without corners cut off

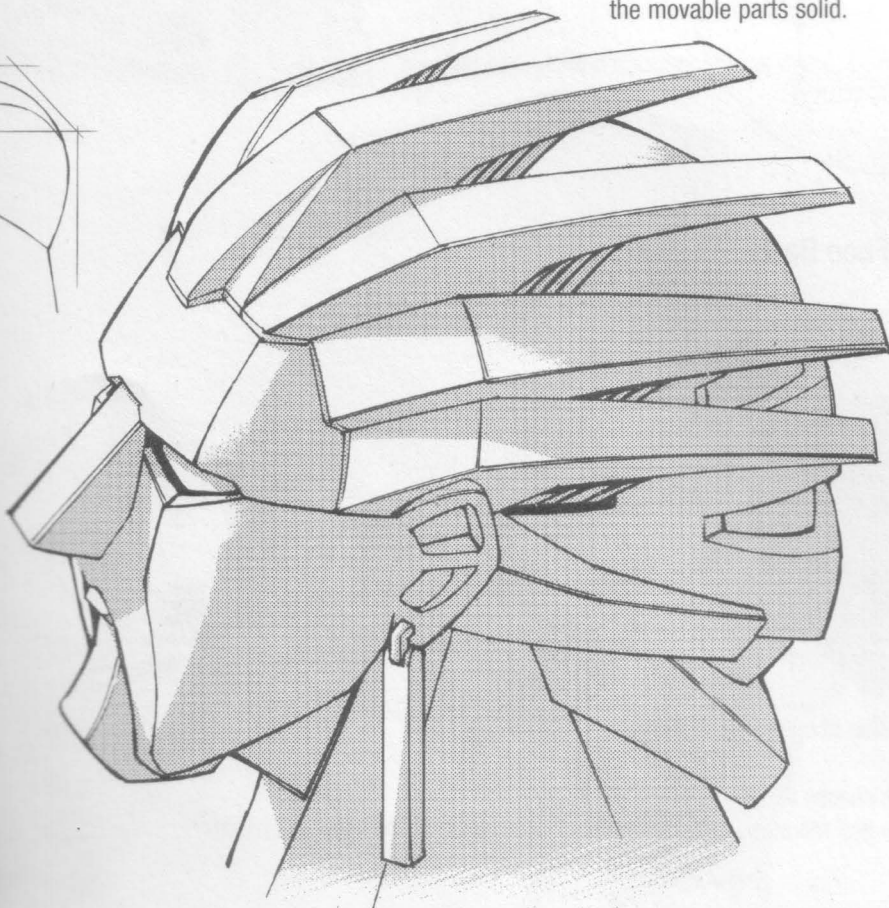
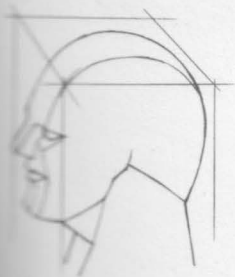
Drawing the edge lines narrower than the contour lines creates a three-dimensional effect.

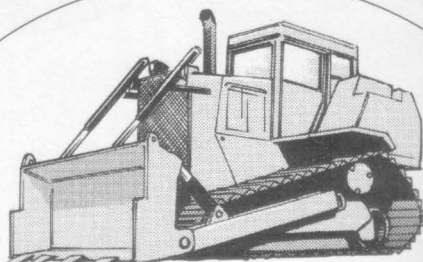
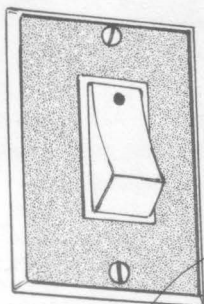
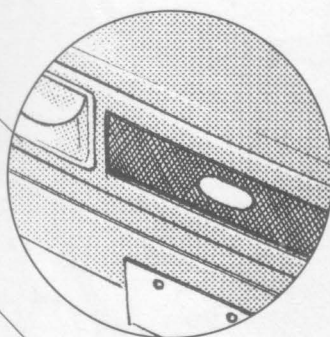
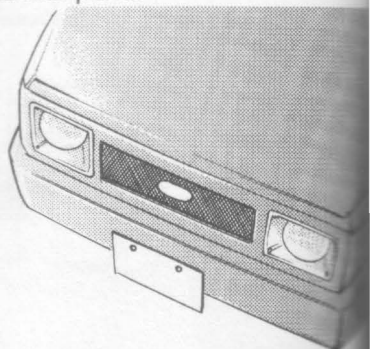
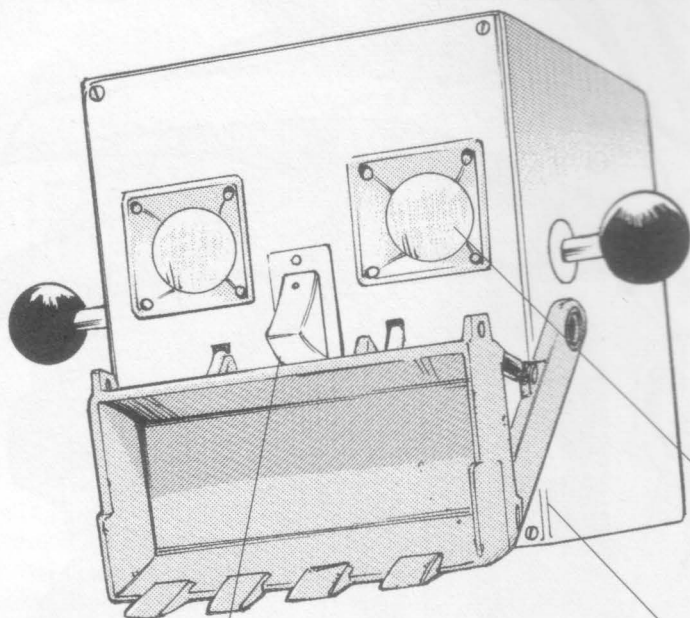
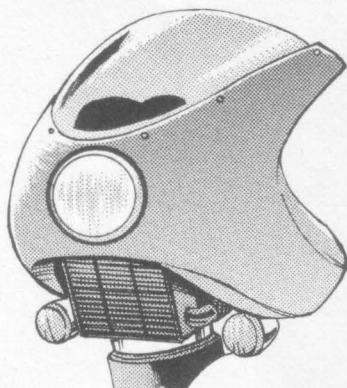
Cut diagonally.

Then draw dual contour lines. They should be close together. This helps represent the shine of a smooth metallic edge.

Separating the lines at the corners creates the same three-dimensional effect.

Example of finished block. Apply tone and plane.

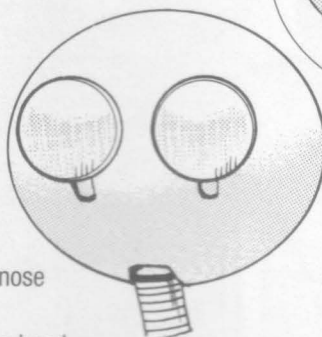
This robot was drawn by selectively removing corners and using dual contour lines. Tones were applied to accent the metallic feel of the surface.

The trick is to apply tones to only about 50% of the surface, leaving the other half white, thus creating a shining effect.

Head | Base the Design on a Face with Beveled Edges

Since a beveled image simplifies the unevenness of the face/head and is blockish, it is easy to apply this effect to a robot head by making the lines sharp and giving it a metallic quality.

You can effectively express a metal-like cubic effect by using double lines for the edges of the part of the head signifying the hair.

You can make it look like removable armor is covering the face of a robot by making some lines bold and some thin.

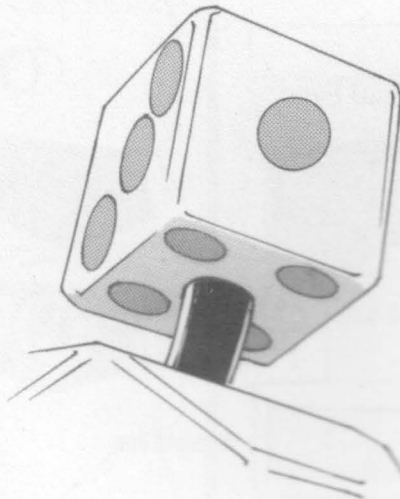
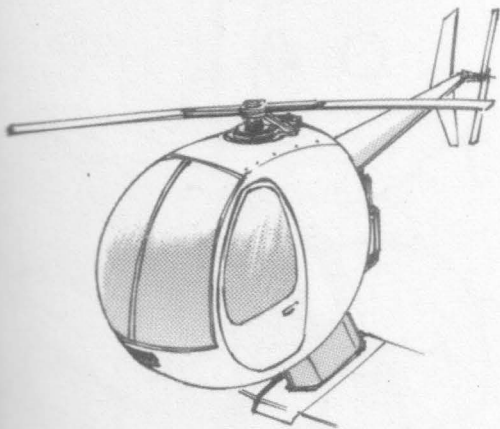
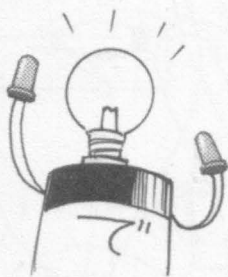
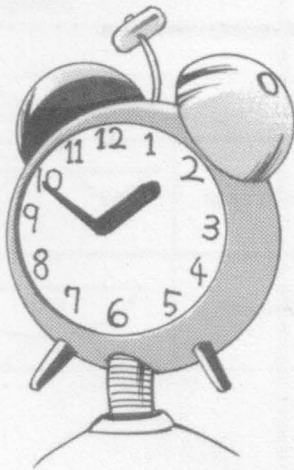
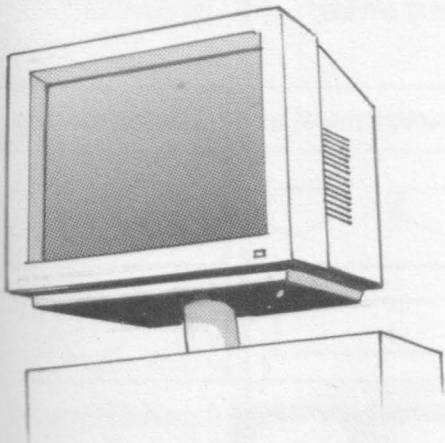
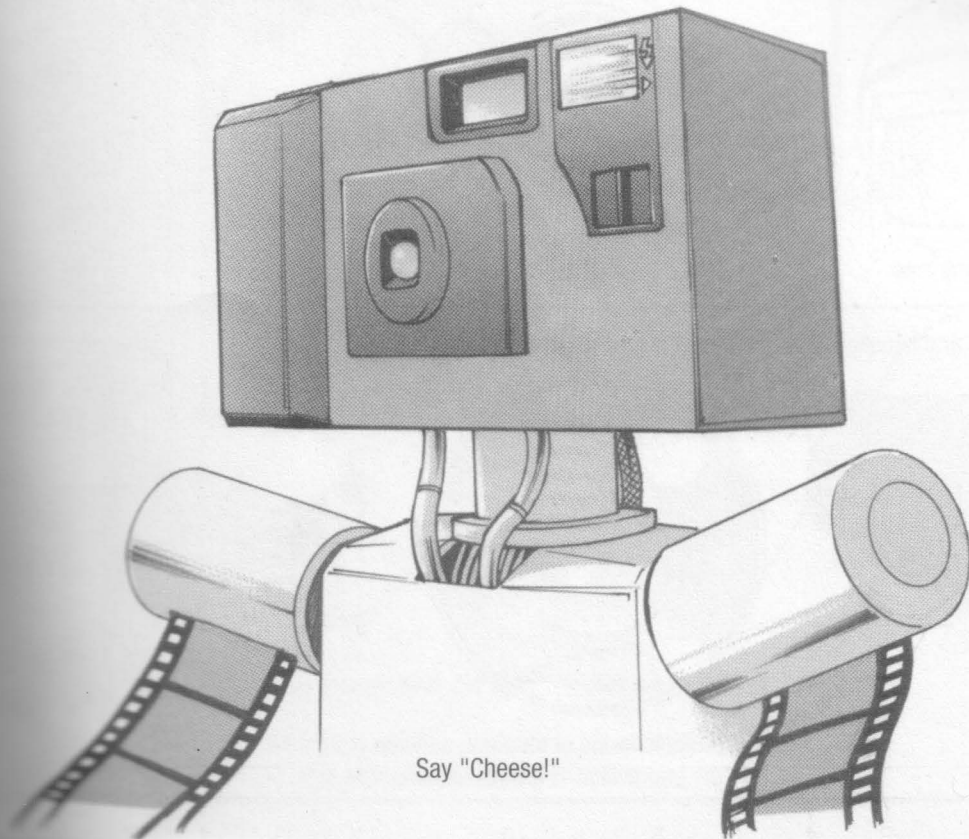
Heaviness and a robot-like molded feel are created when you make some of the movable parts solid.

Head Replacement and Omission

Replace the eyes, ears, nose and mouth with mechanical parts.

Omission of Face Parts

Omission of one eye and the nose

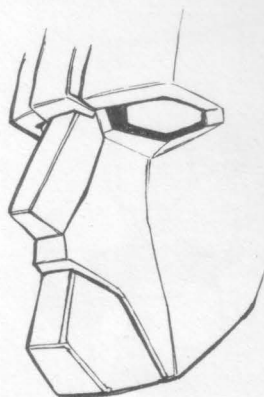
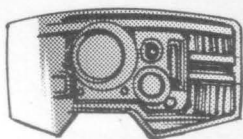
You are free to choose the shape of the head. The ears, nose and mouth are often omitted.

Omission of the nose and mouth

Asymmetrica

Replacement of the Head Itself

Use everyday objects to give your robot an unexpectedly familiar face.

You can also make a non-mechanical object look like a head.

Say "Cheese!"

Head — Eye Shape and Size

The eyes are based on three basic shapes: triangles, squares and circles.

Mechanical Eyes

Goggles type

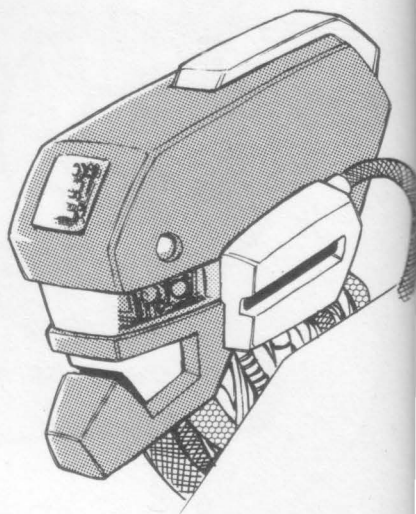
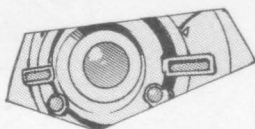
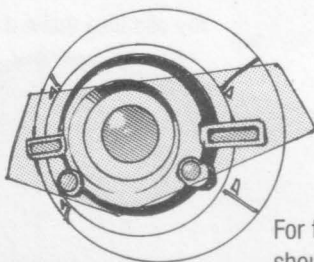
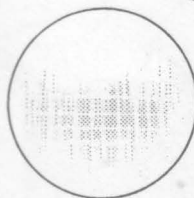
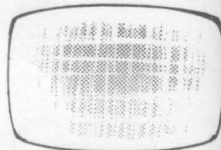
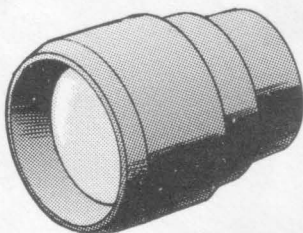



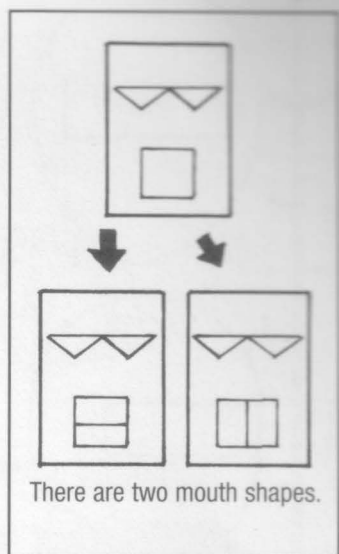
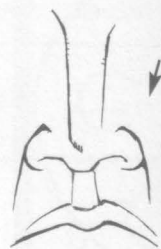
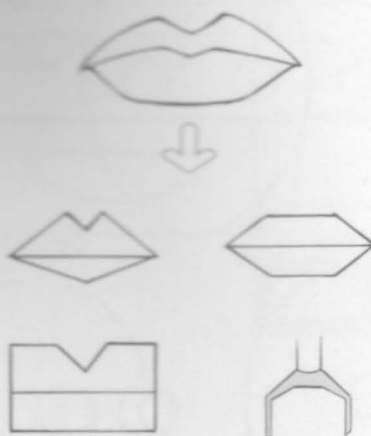
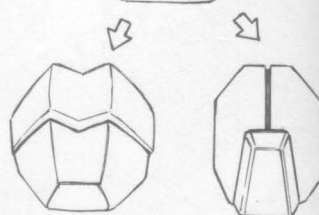
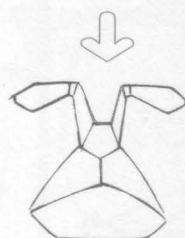
Plate glass type

Spherical-lens type

For the round-lens type, you should draw an entire eyeball.

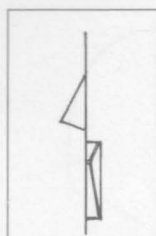
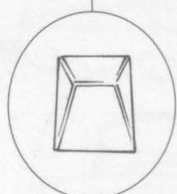
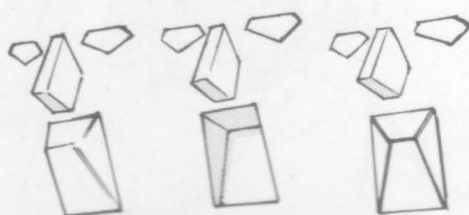
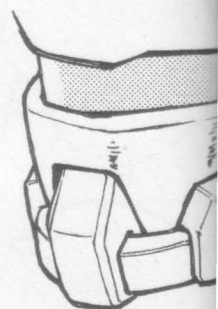
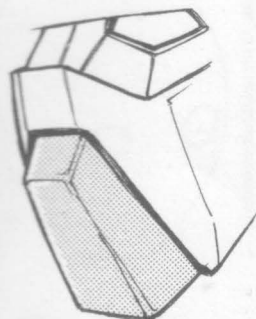
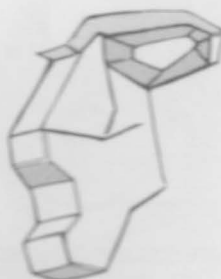
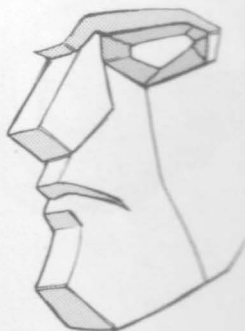
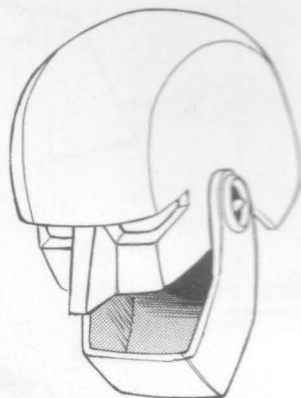
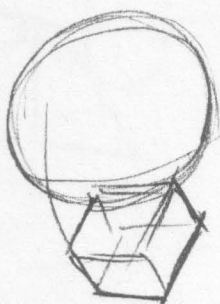
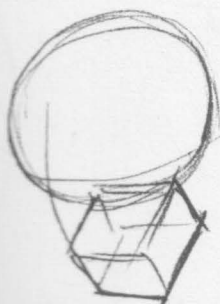
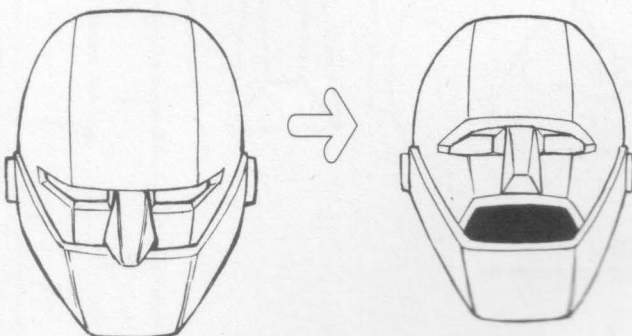
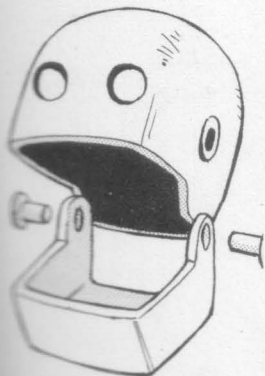
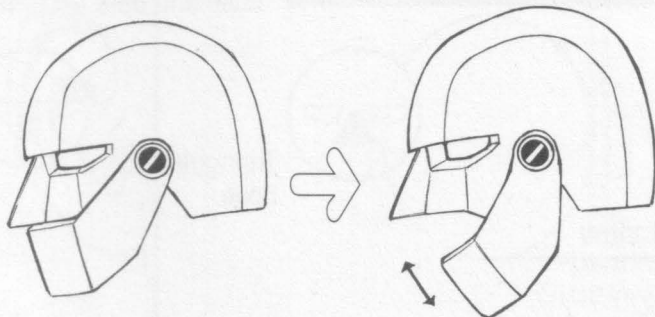
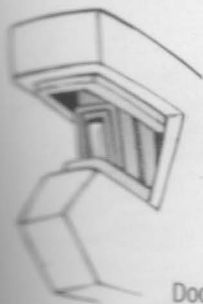
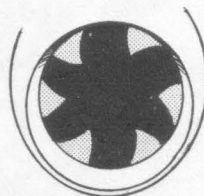
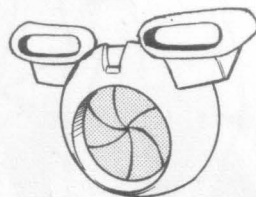
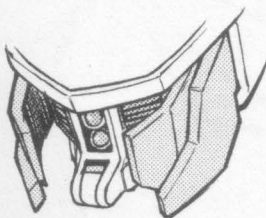
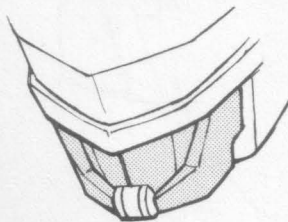
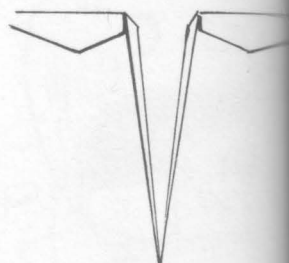
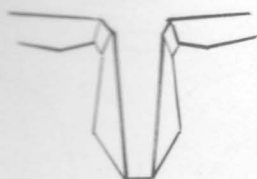
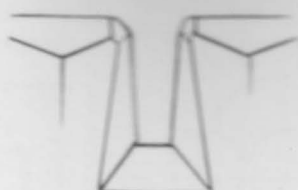
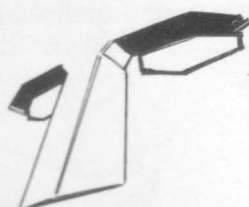
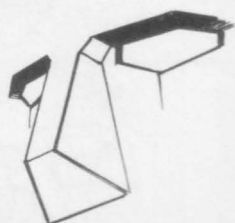
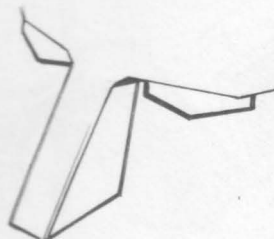
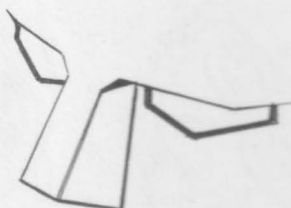
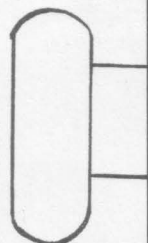
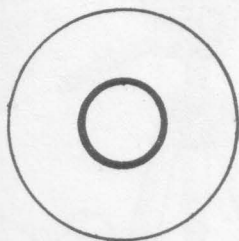
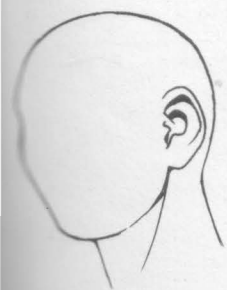
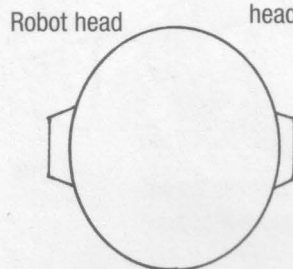
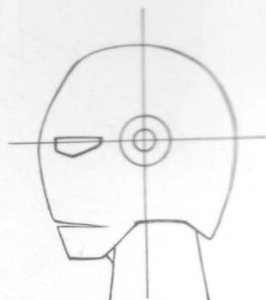
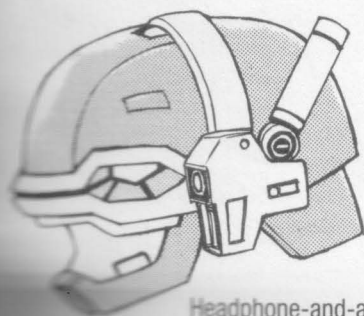
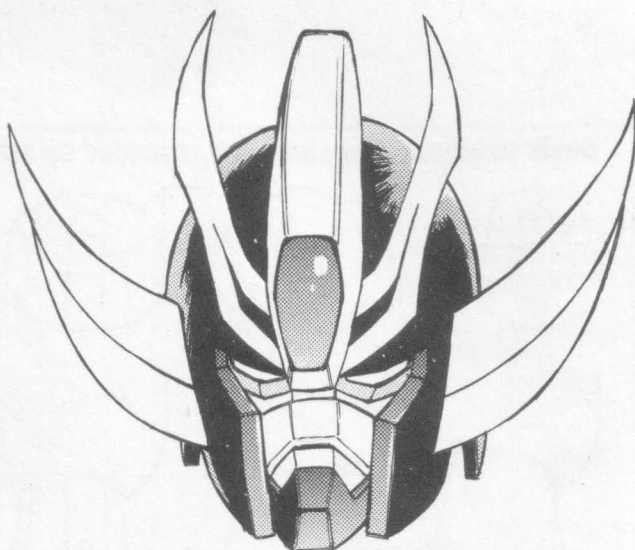
Camera lenses and headlights can be used for mechanical eyes.

Use of multiple levels of tone and addition of light will create the impression of a three-dimensional lens.

Decide whether the eyes are concave or convex.

There are two general approaches to drawing a robotic mouth: One is to consider the shape formed by the lines that connect the nose and mouth, while the other is to view the mouth in relationship to the overall structure of the head.

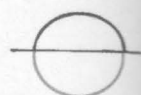
Design Based on Shape

There are two mouth shapes.

Clearly establish whether the mouth is concave or convex.

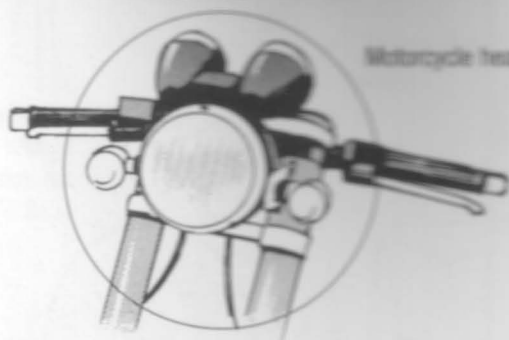
Convex type

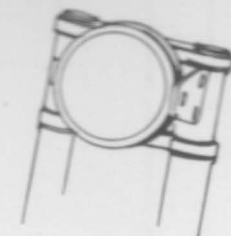
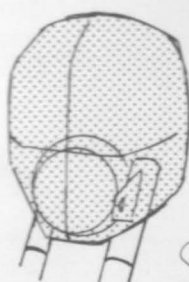
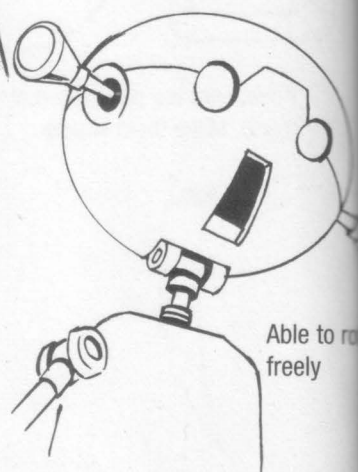
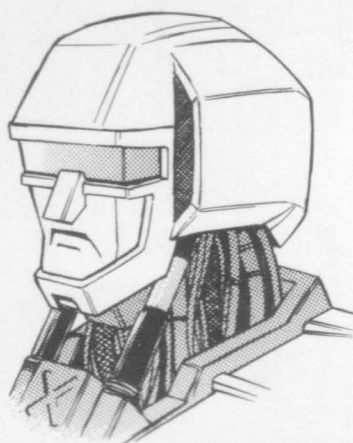
Concave type

Flat type

Front example

Other mouth designs

Design Based on Structure

Head
Nose and Ears
Design the nose and ears based on basic beveled shapes. Or, don't draw them at all; professional manga artists often omit th
nose and ears altogether.
Triangular nose
Rectangular nose
Inverted-triangular no
Front view
Side view
Upward view
Downward view

Human head
Human ears stick out from the head.
Robot head
Robot ears are usually molded into the head.
Robot ears are generally rectangular or round. Make them simple.
Drawing the ears near the middle of the head will make the robot look human.
Headphone-and-antenna type
Horn-shaped type

Think in terms of how the neck supports the head.

Three basic neck types

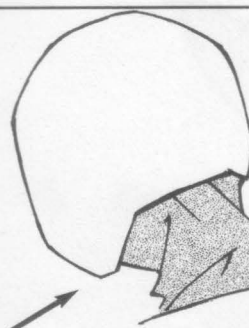
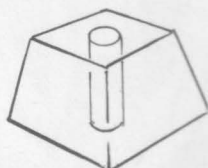
Thick neck

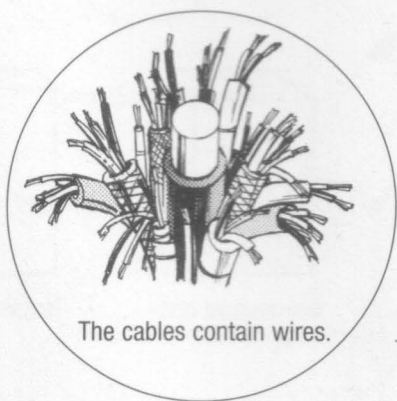
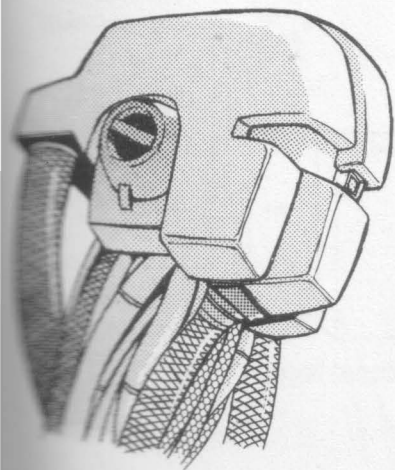
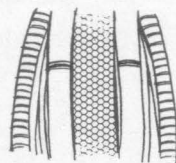
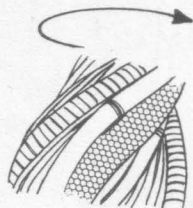
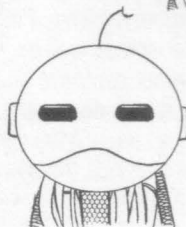
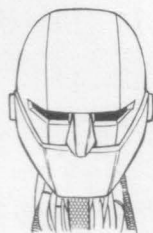
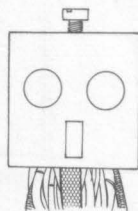
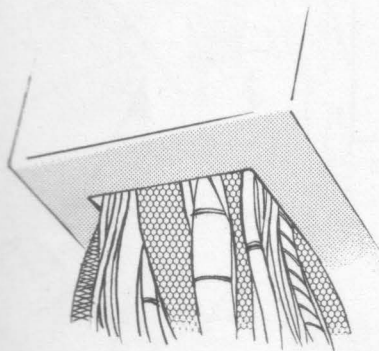
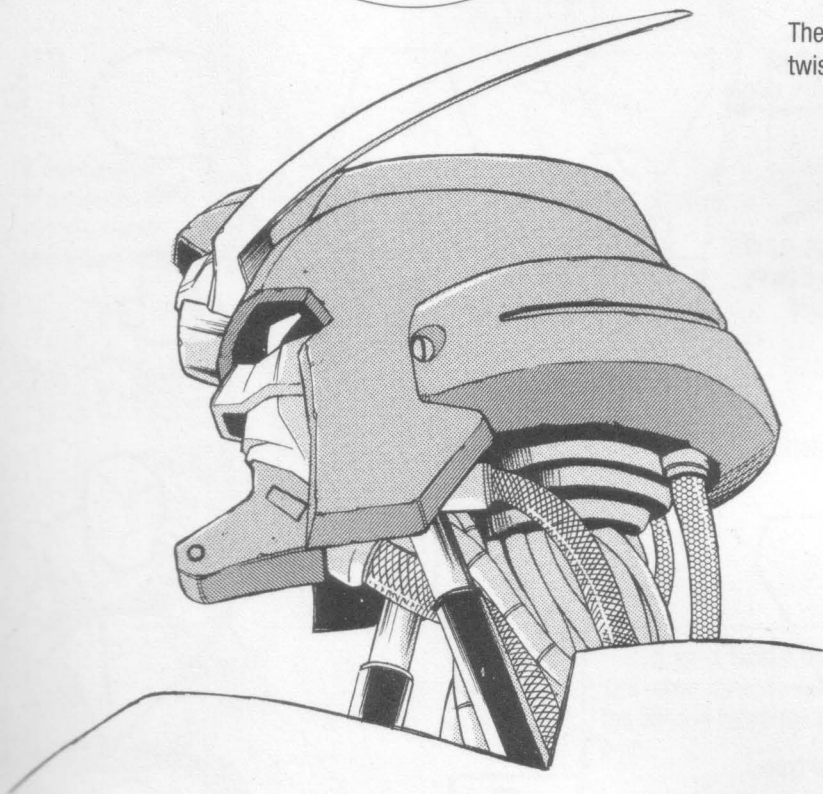
Thin neck

No neck (lodged in the body)

Shaft- and Hinge-type Necks

Motorcycle headlight

Camera tripod

Replace headlight with head

Able to rotate freely

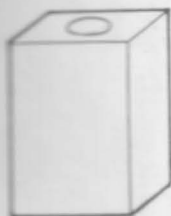
Basic structure: The shaft is surrounded by armor.

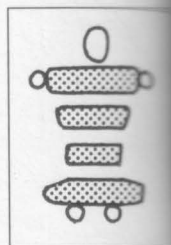
Spring- or accordion-type cover

Protective cover used instead of armor

Cable- and Hose-type Necks

Trunk Body Basics

The trunk can be a single part combining the chest, stomach and hips, or two or more separate parts.

Single-part type Three basic shapes

Cylindrical body

Box-shaped body

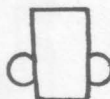
Board-shaped body

The special "centipede-type" body consists of multiple parts.

Two-part type

Inverted triangle

Stand

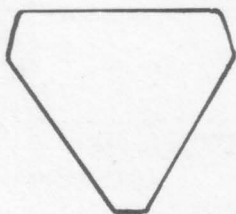
Oval

Square

Briefs type

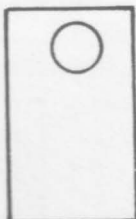
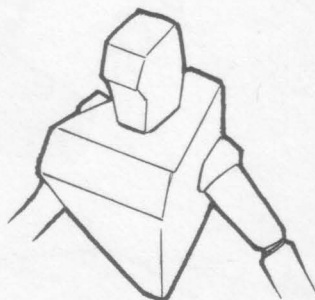
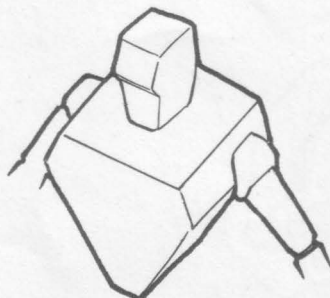
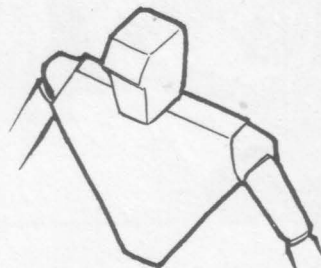
T type

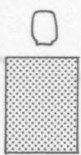
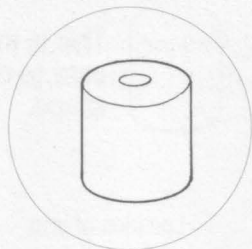
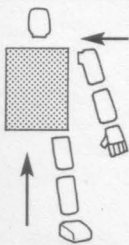
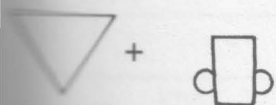
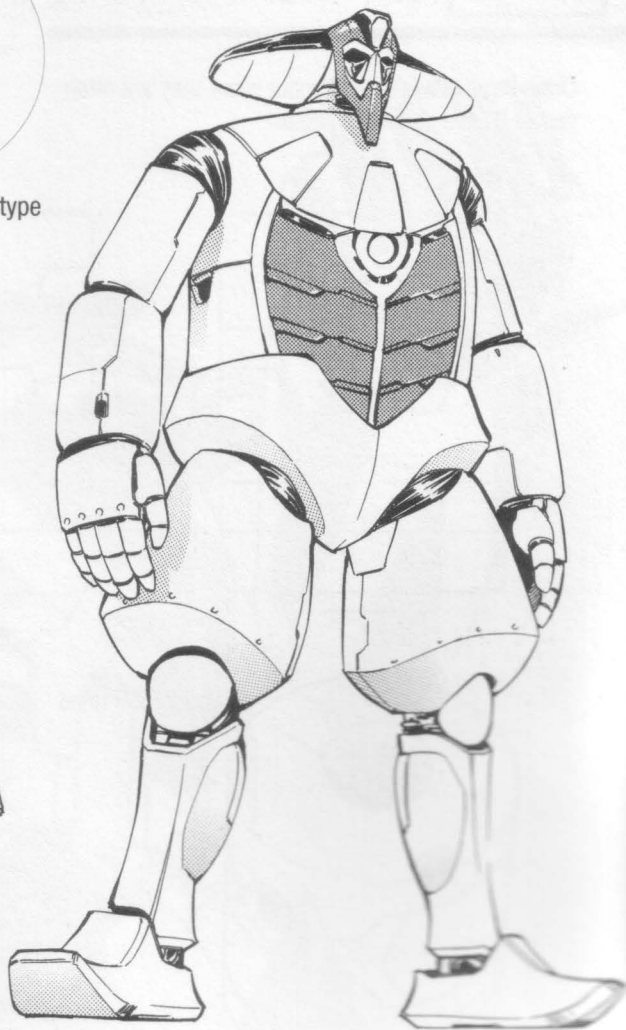
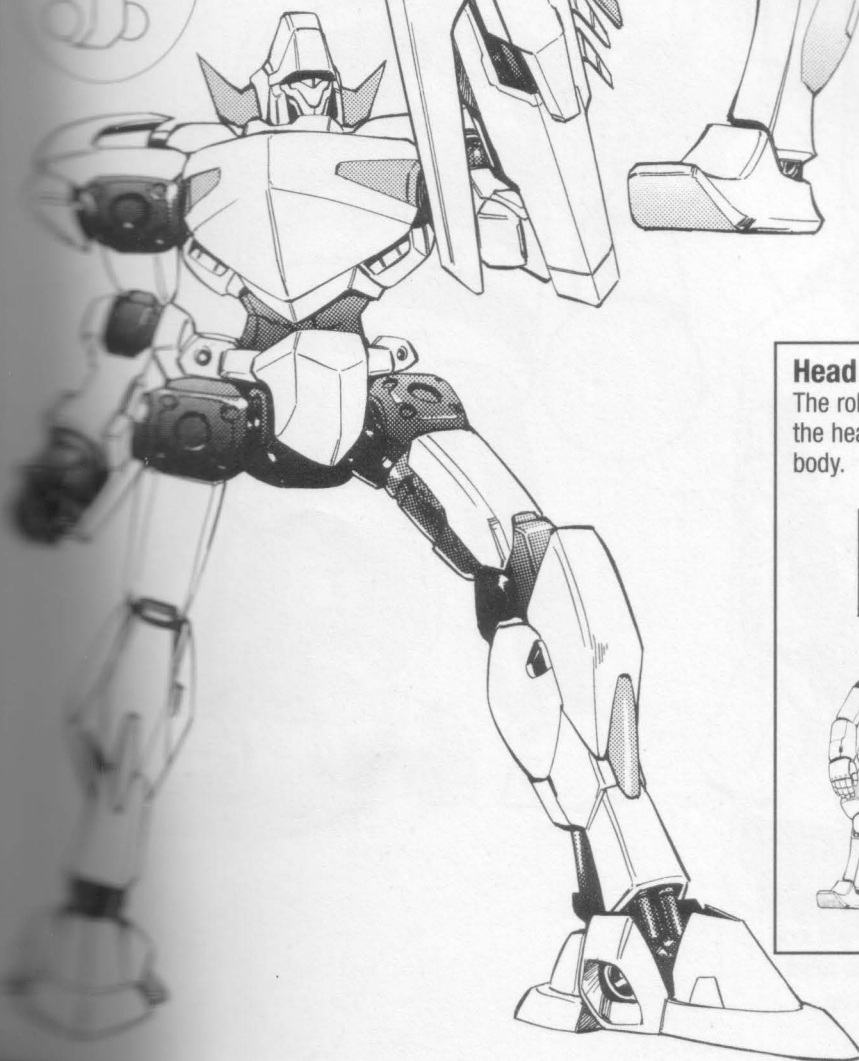
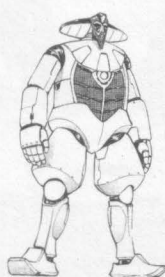
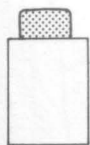
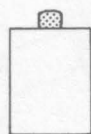
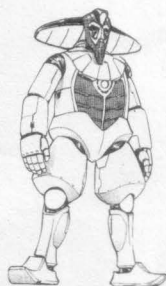
I type

The I type is the skeleton of the briefs type and a simplified version of the T type.

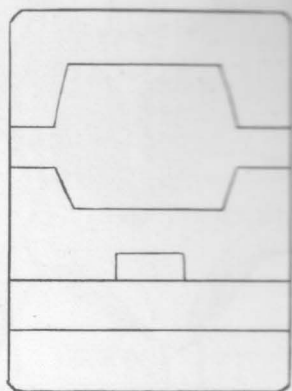
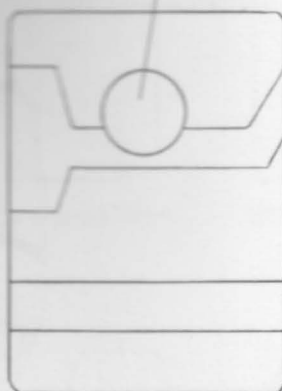
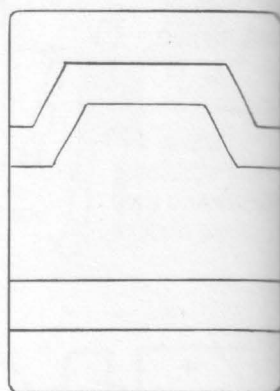
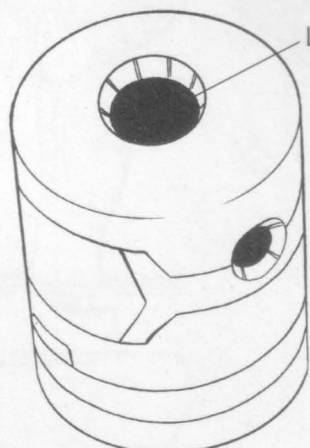
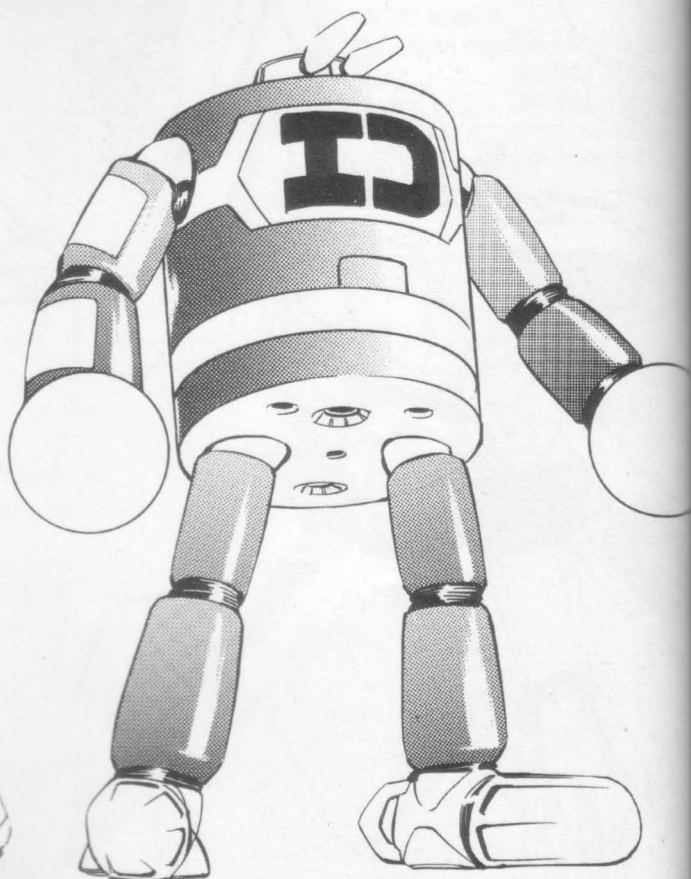
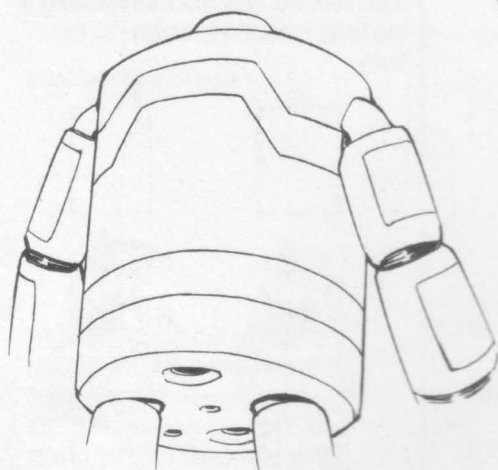
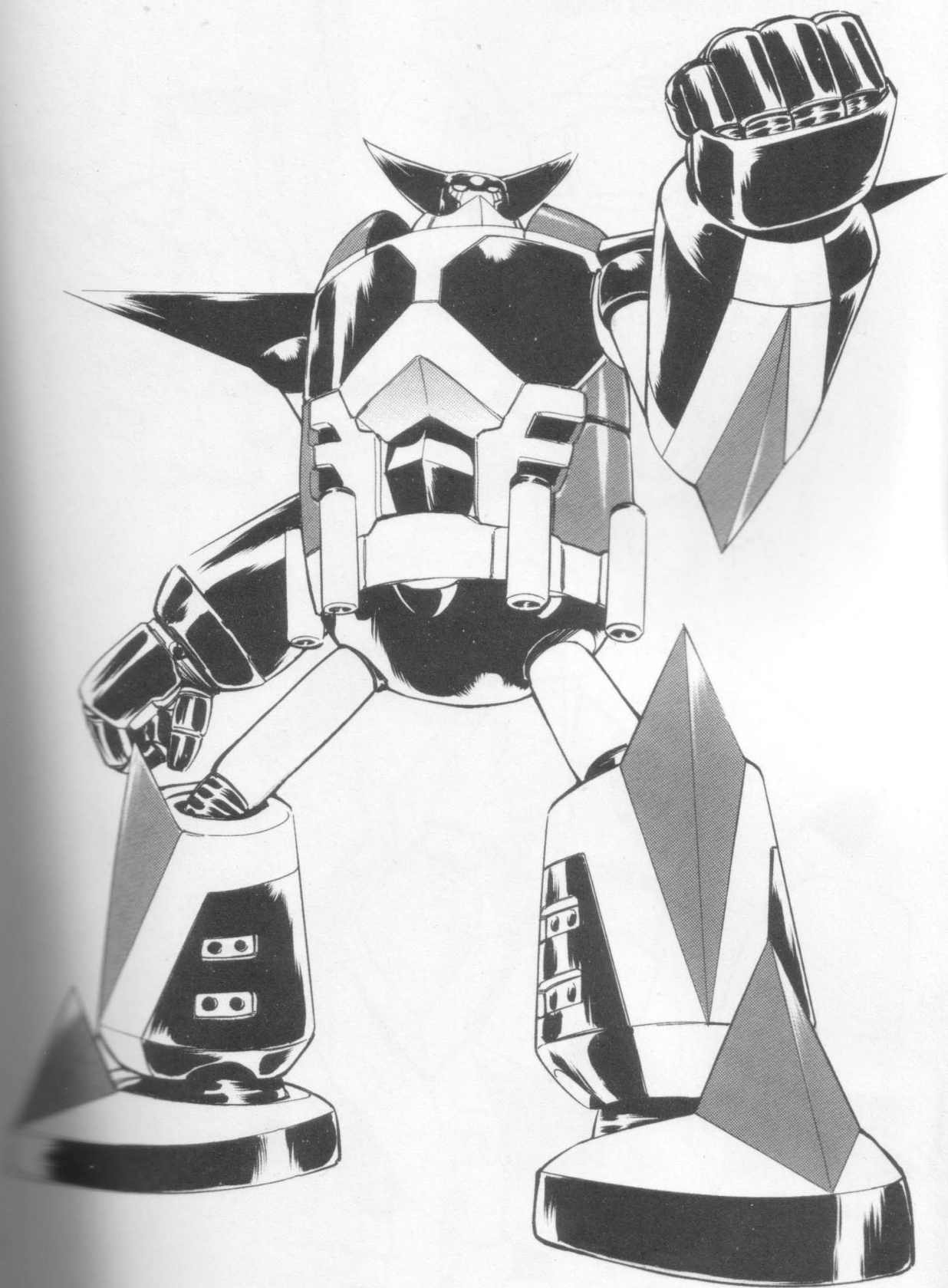
Chest Patterns

Inverted triangle type

Side view

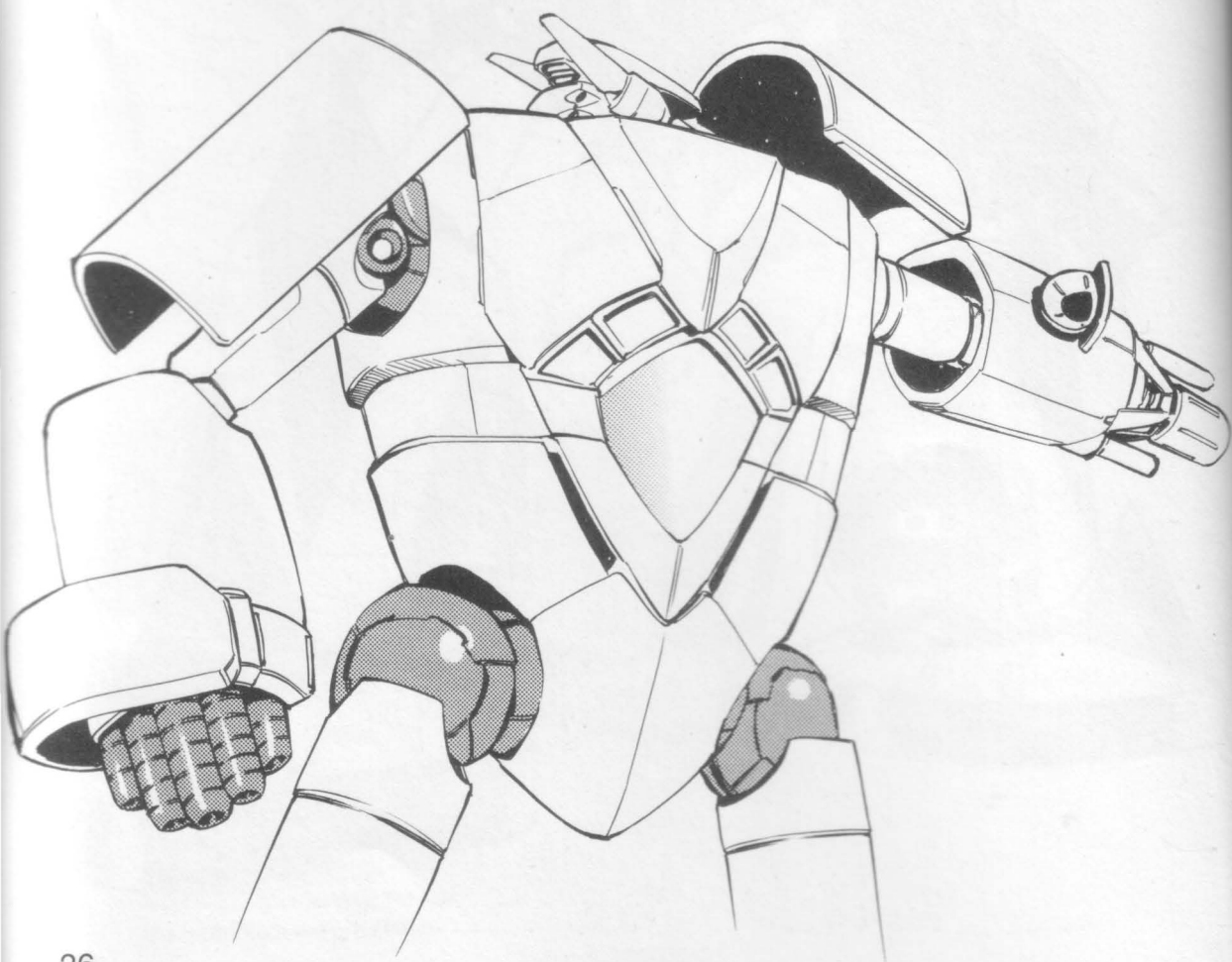
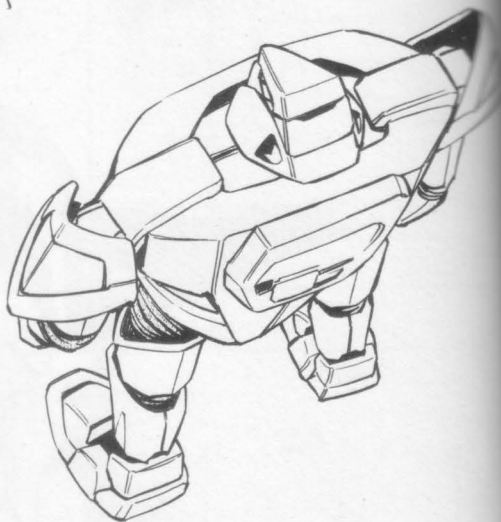
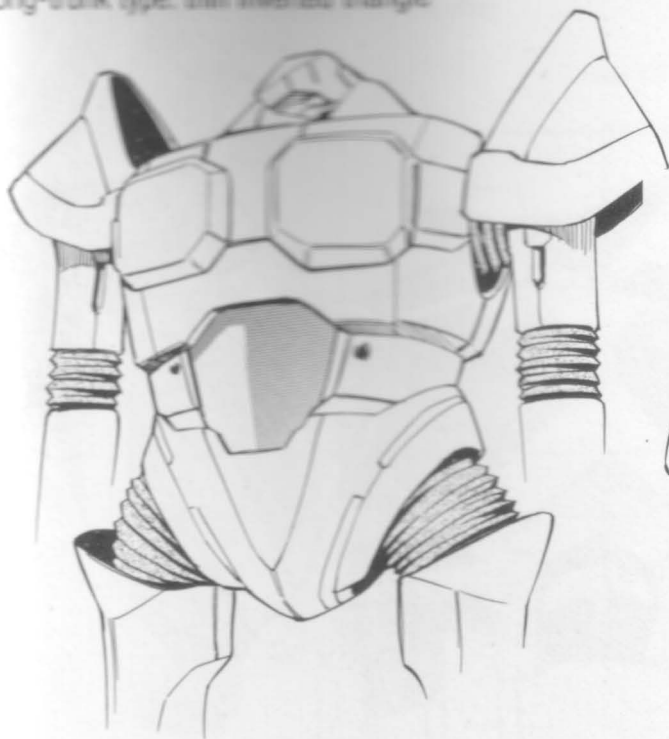
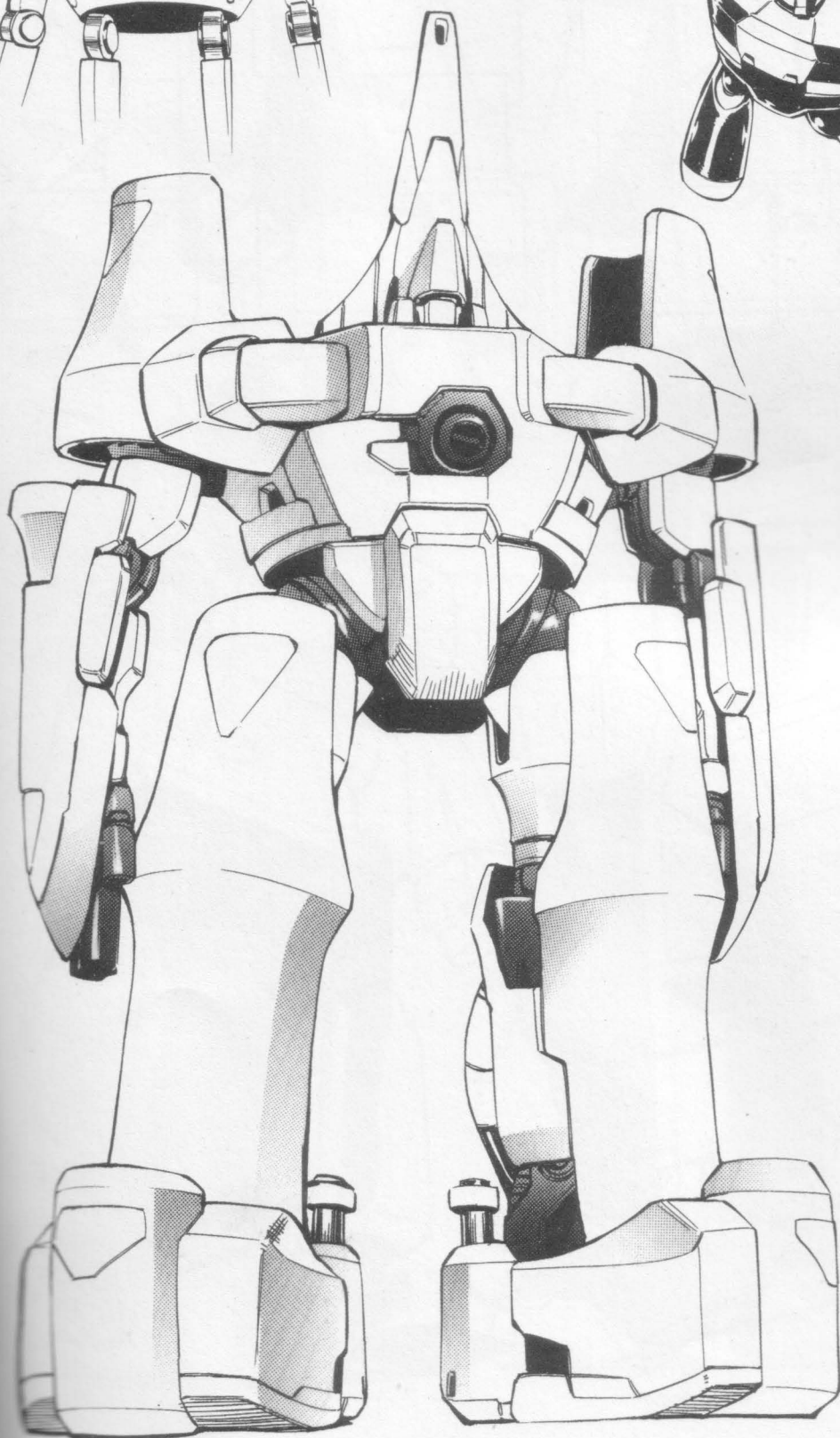
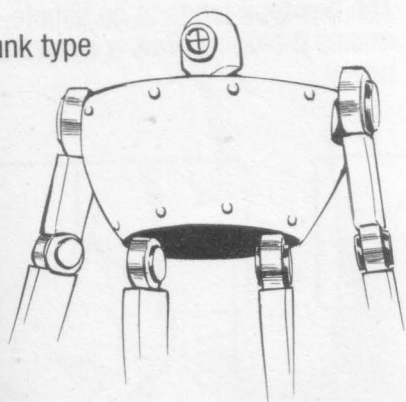
Irregular cone

Normal box

When designing the body of a robot, think about the shape as seen from the side as well as the front. A robot can have a totally different look depending on the thickness even if the design and shape look the same from the front.

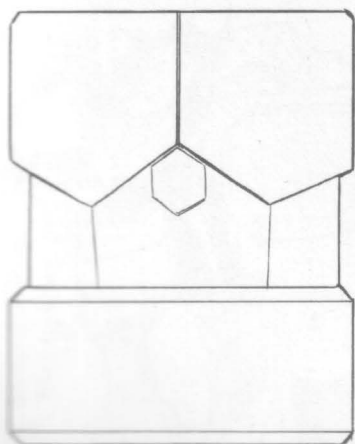
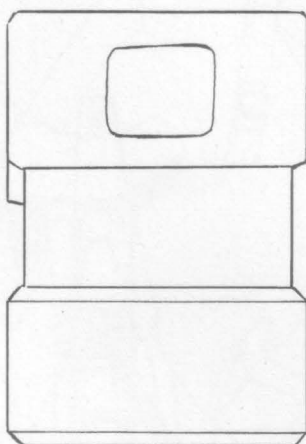
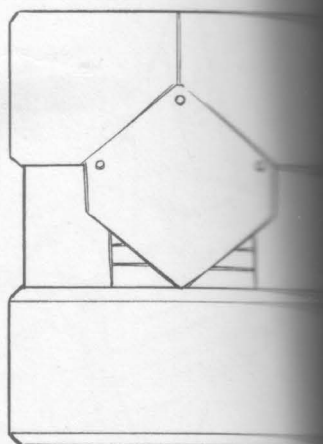
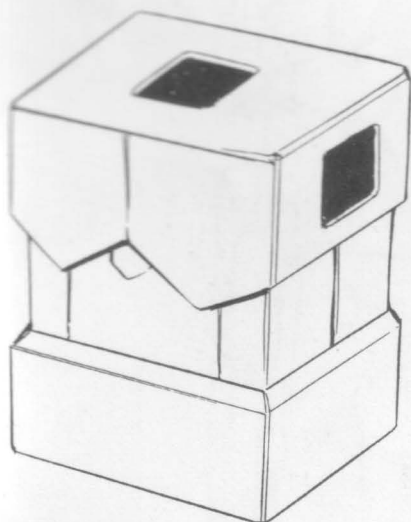
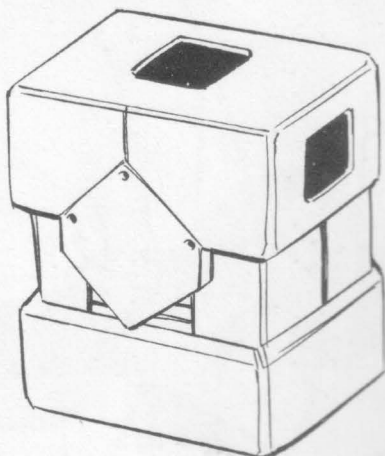
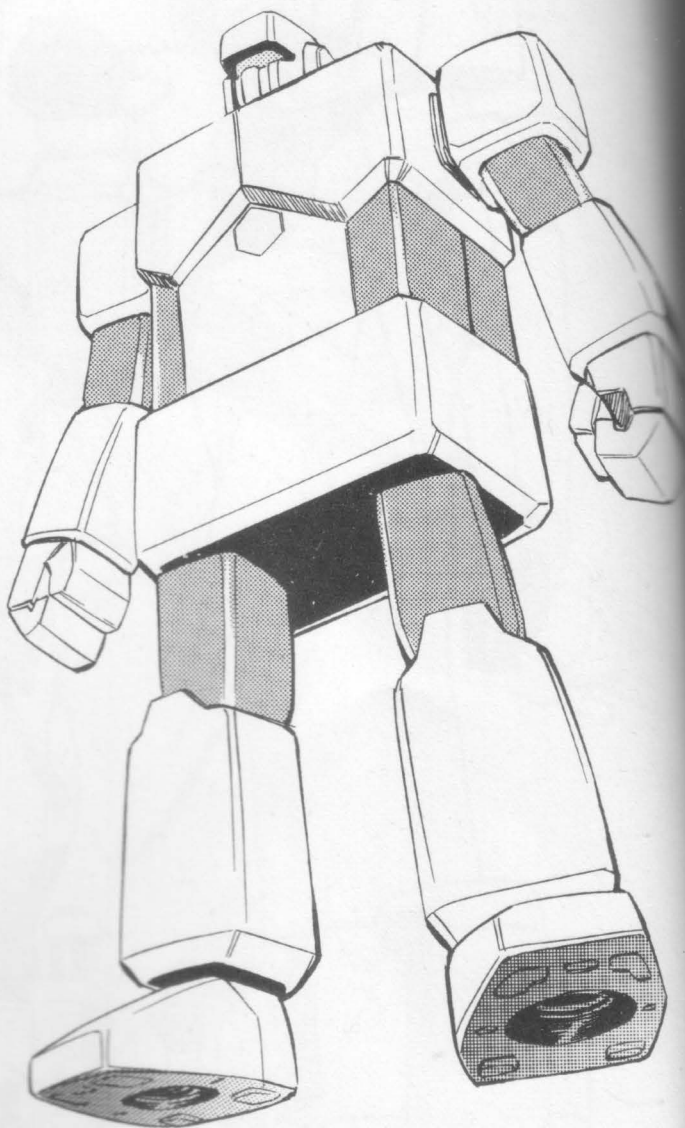
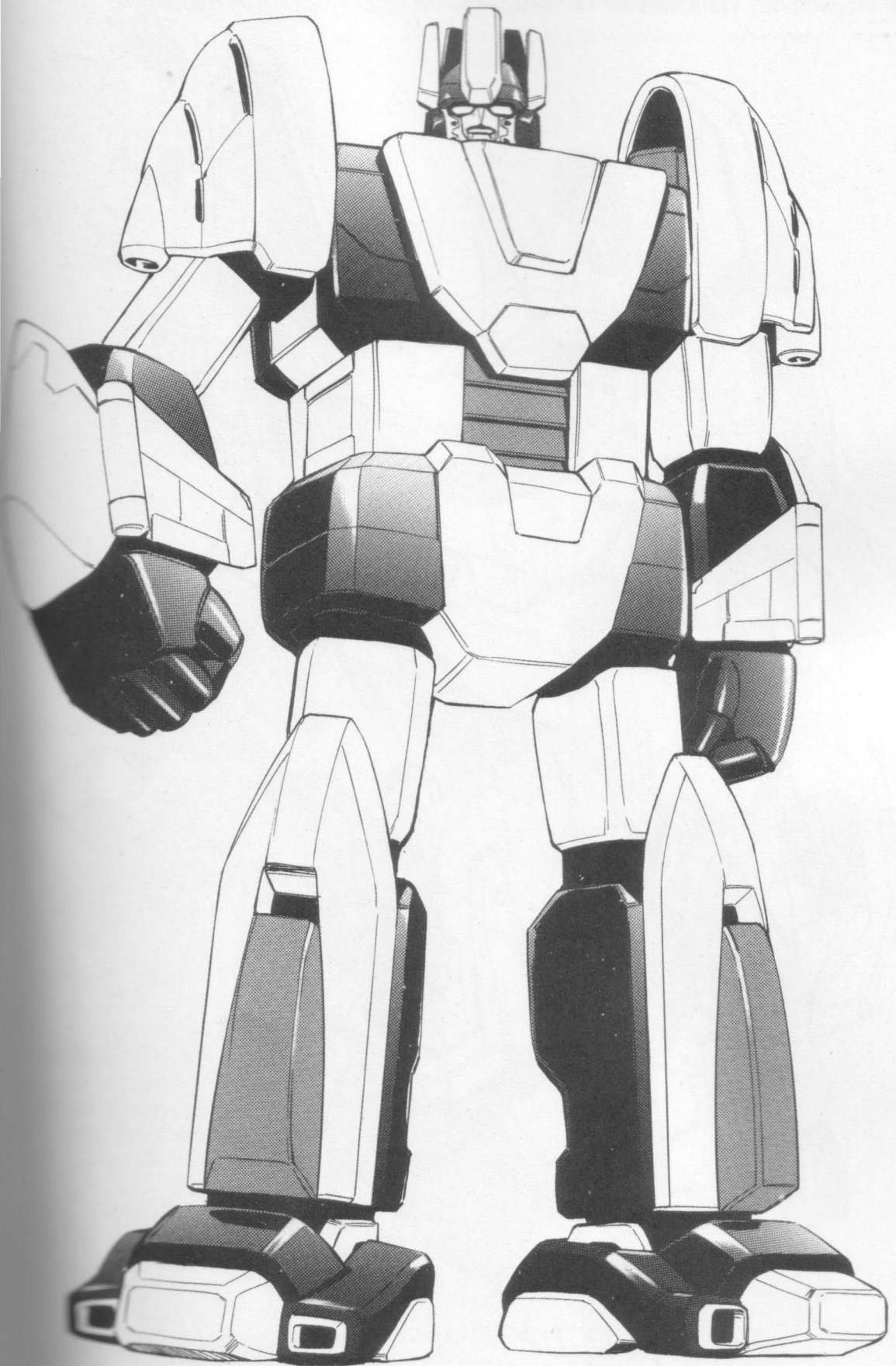
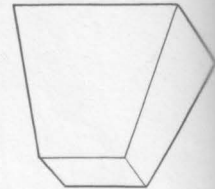
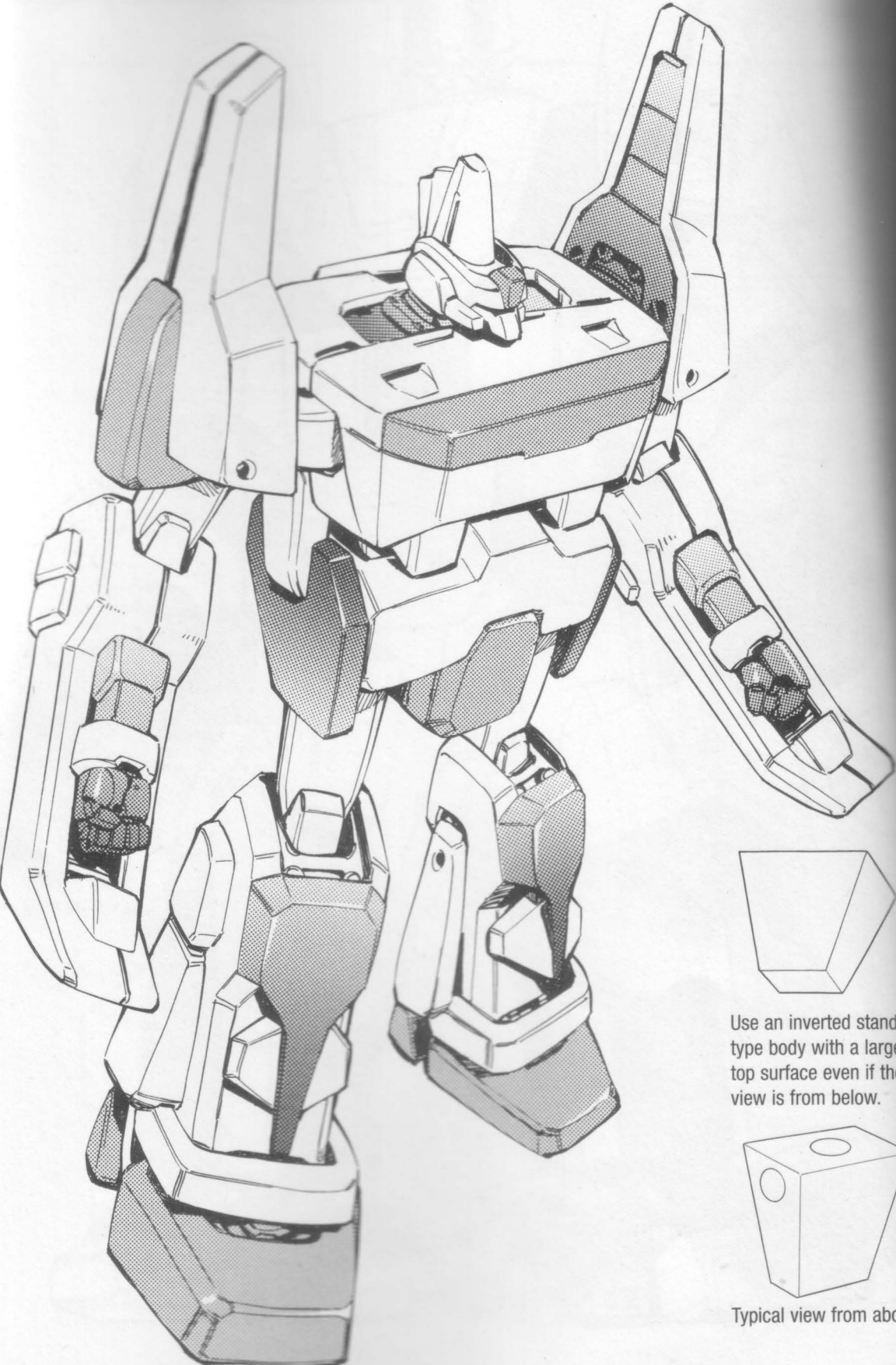
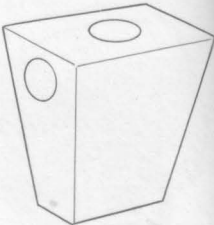
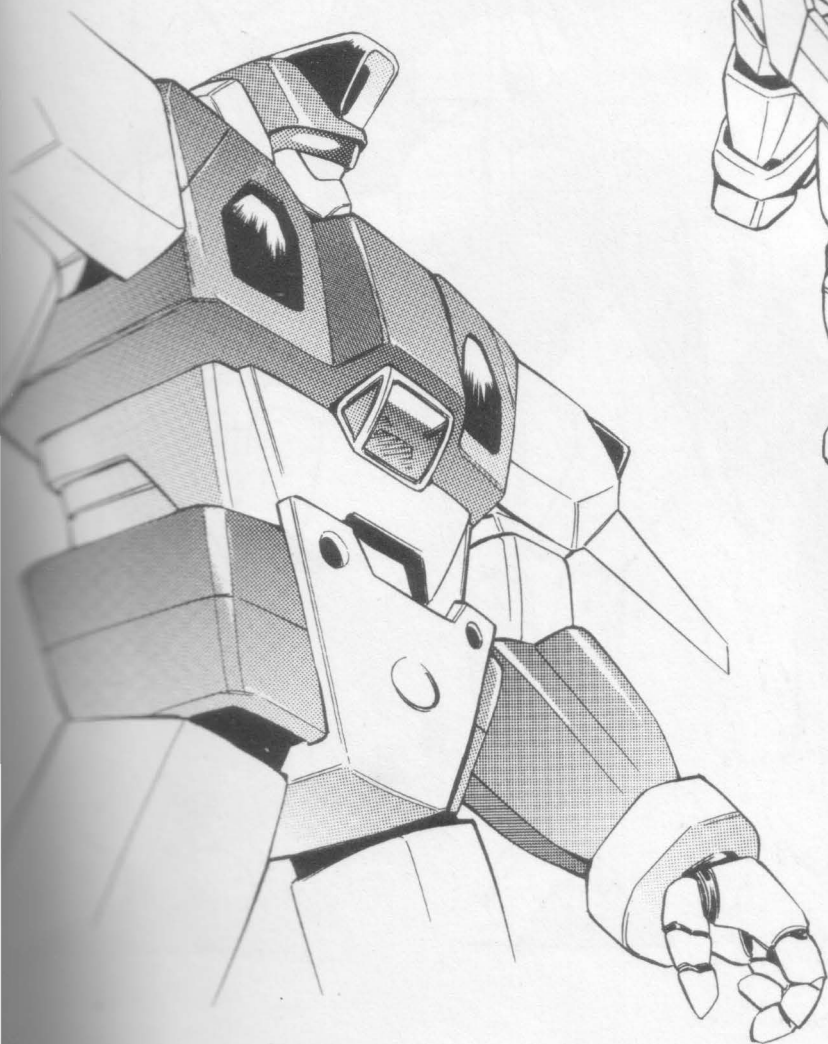
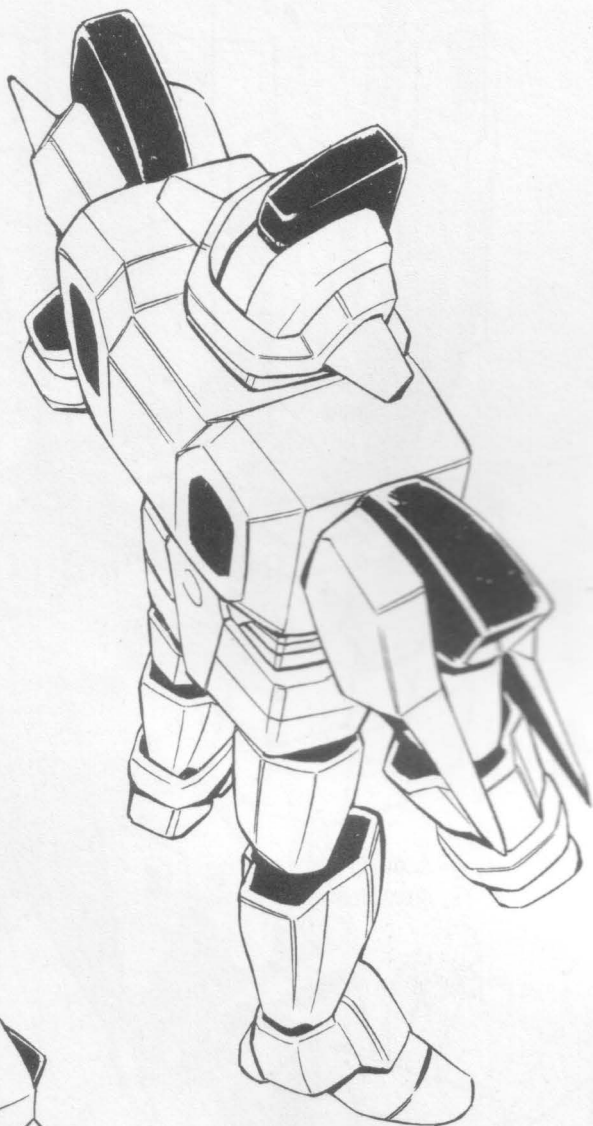
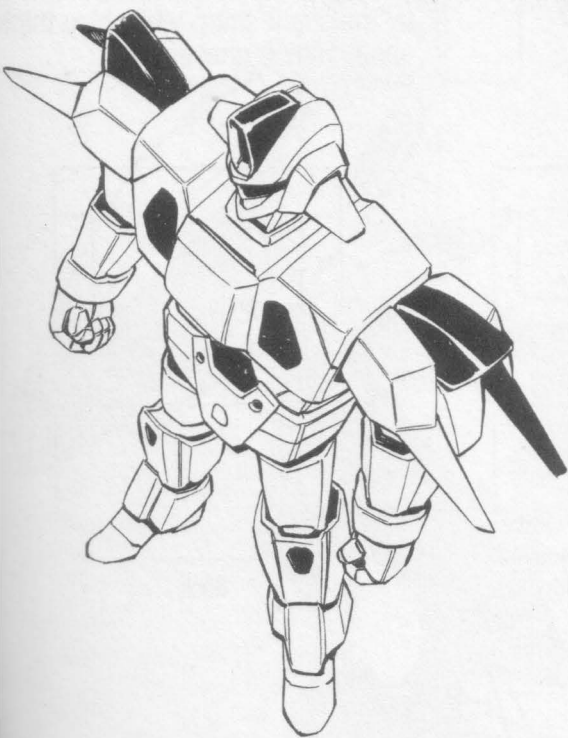
Board

1. Choose body type.
2. Attach arms and legs of your choice.
Cylindrical-body type
+
A combination of an inverted-triangle chest and I-type hips
Head and body balance
The robot will look more intimidating if the head is relatively smaller to the body.
Good
Bad

Trunk Type 1: Cylindrical Body

This is the classic "potbellied" robot. It is easy to draw stocky, solid robots using th shape.

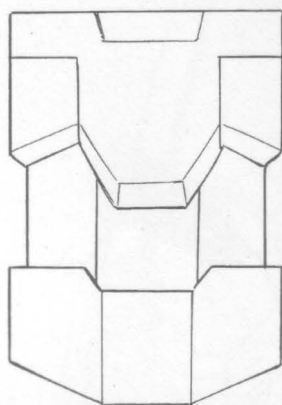
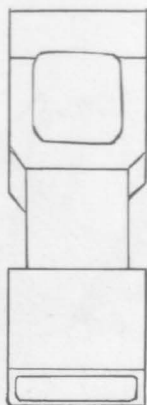
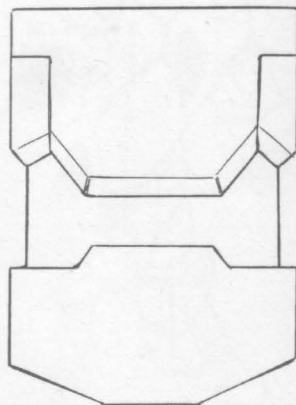
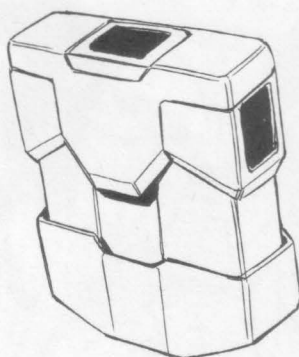
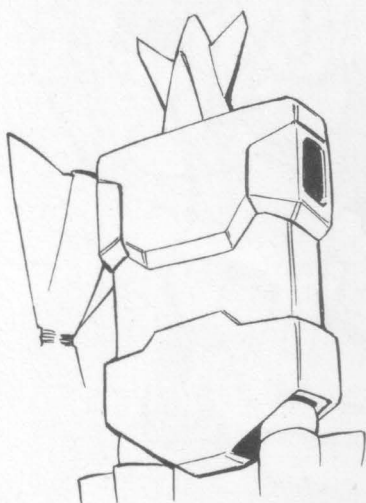
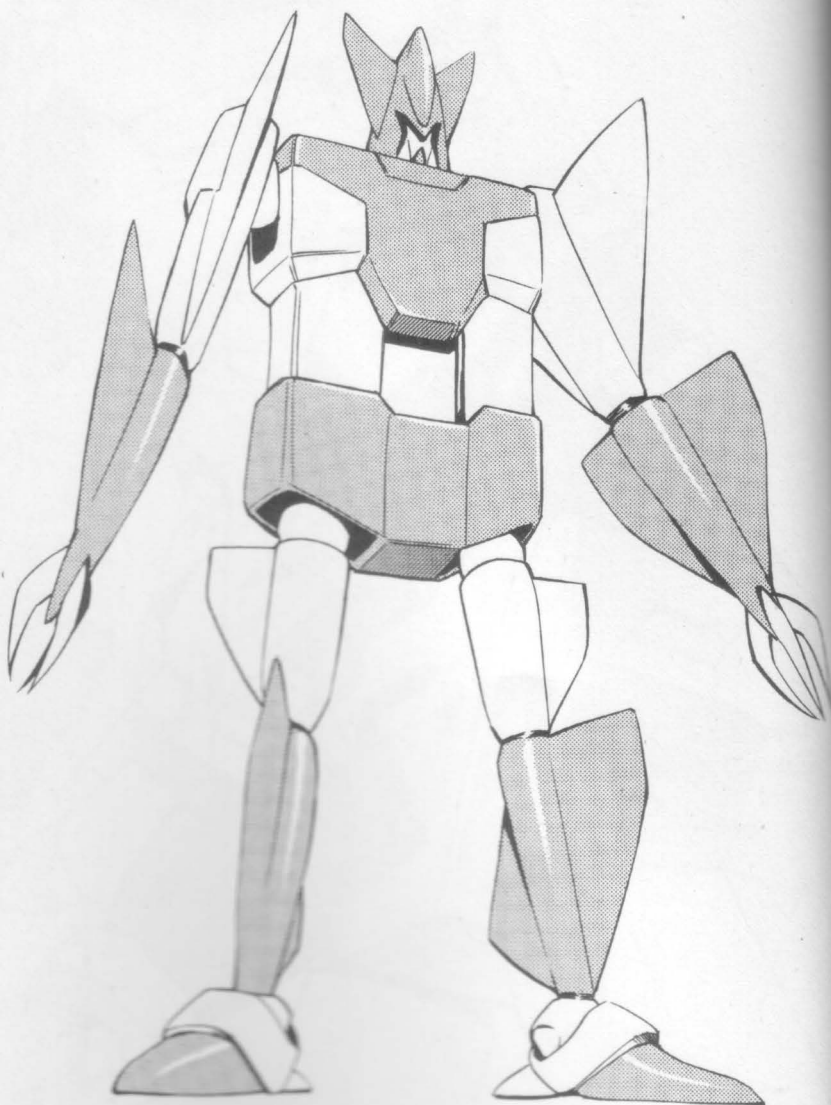
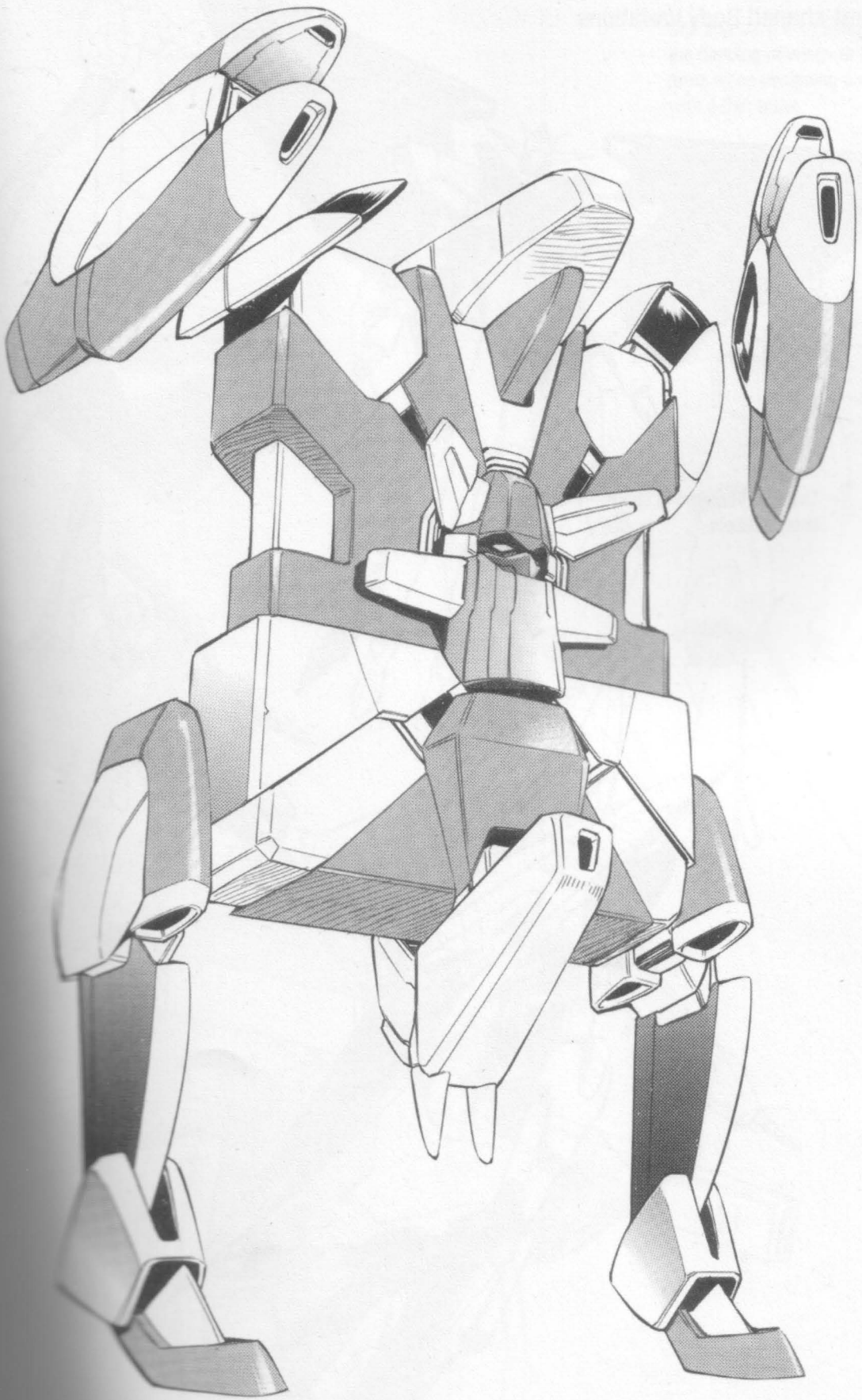
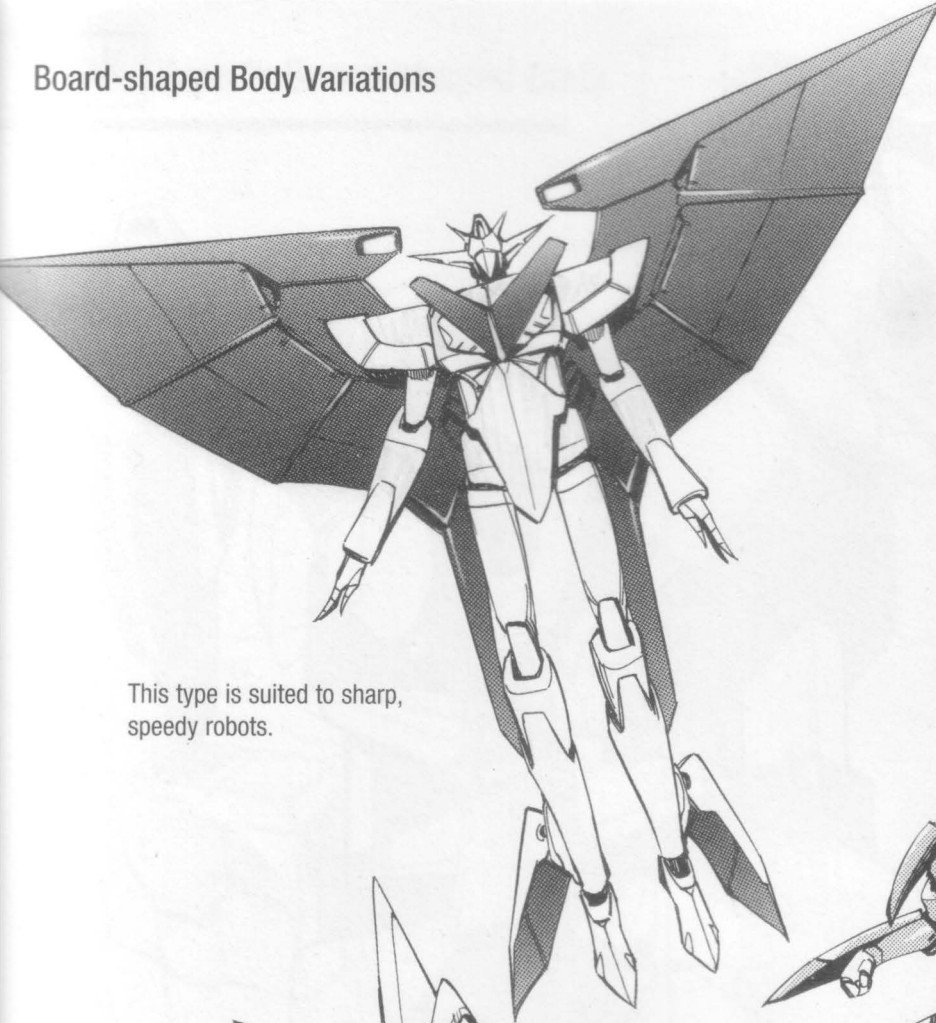
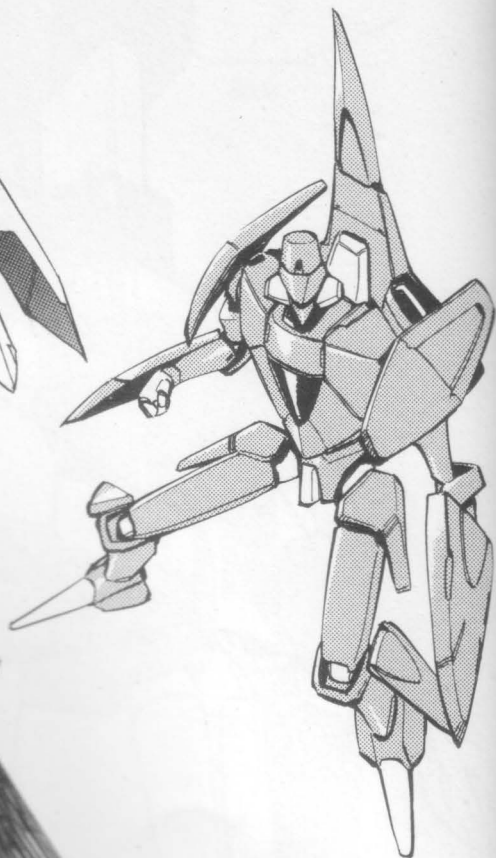
Draw three views of your robot since they are often drawn from a variety of angles.

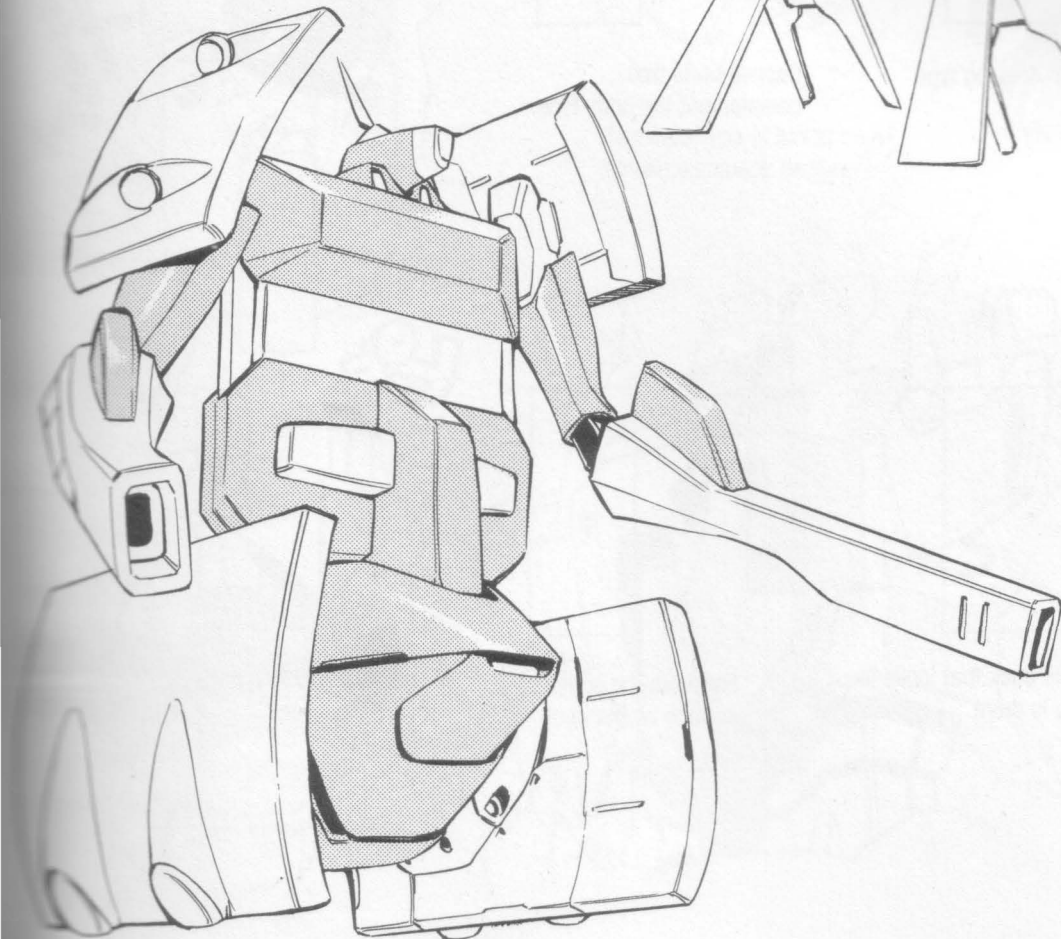
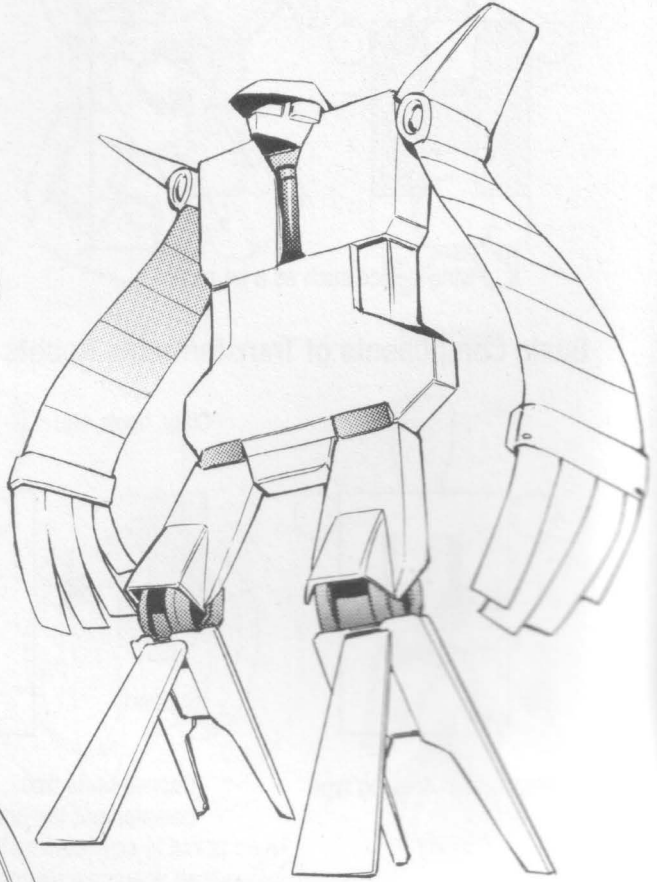
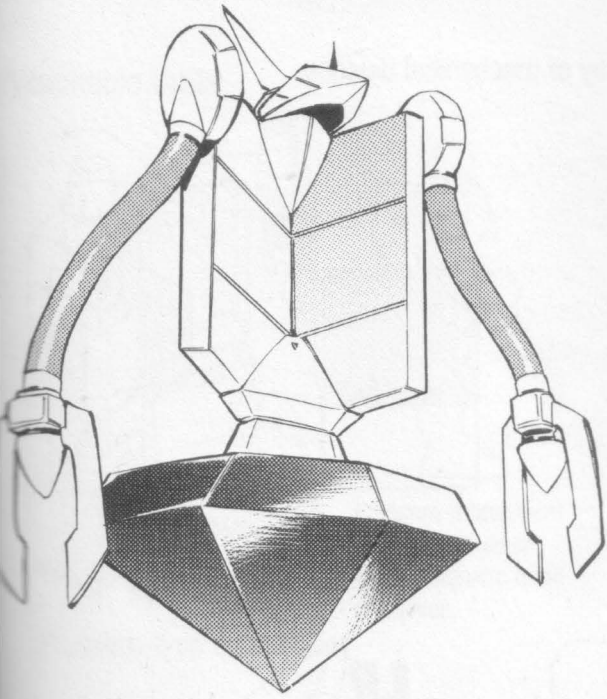
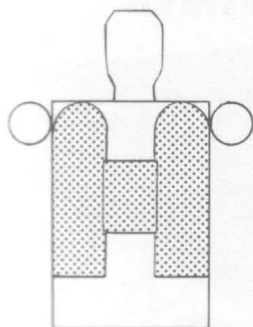
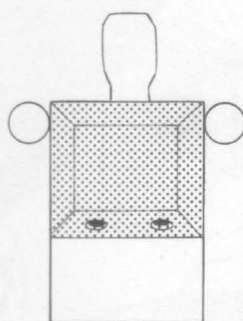
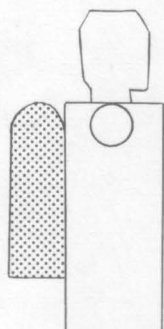
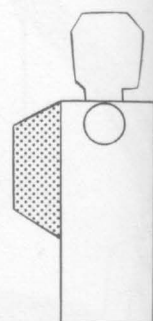
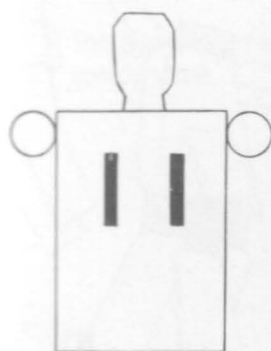
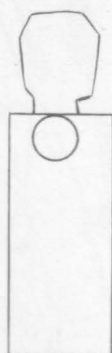
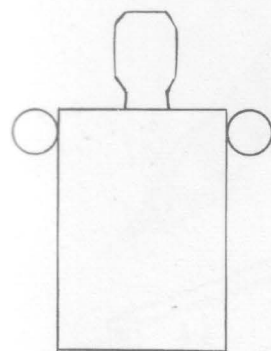
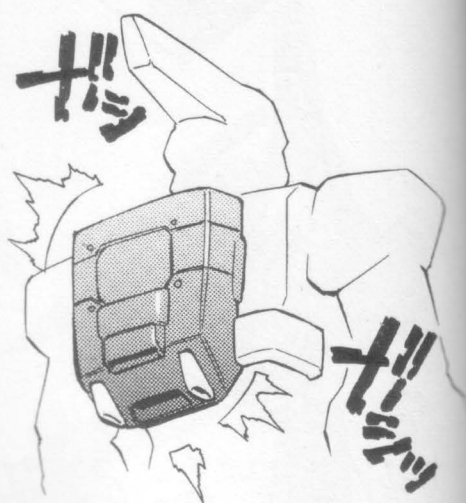
Location of arm

Front

Side

Back

As seen from above

Carefully choose the locations of the arms and legs so they will look natural yet strong when the robot is viewed from the ground up.

Cylindrical Body Variations

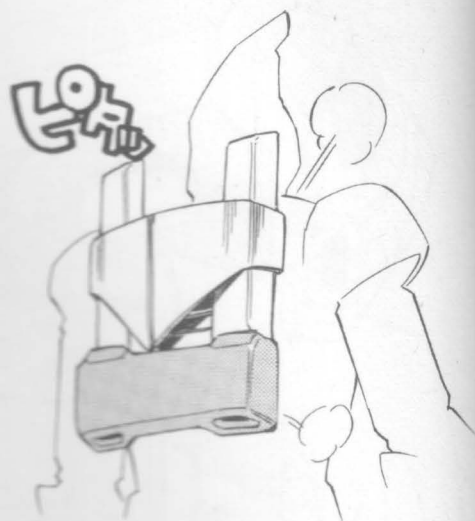
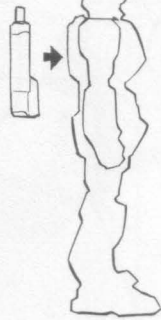
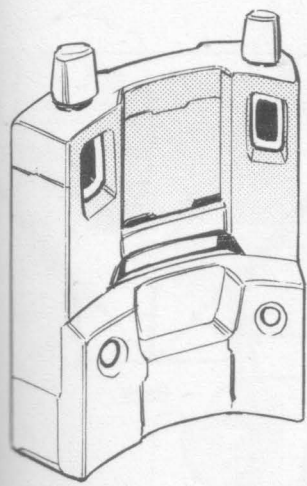
Robots with short or thin trunks look more intimidating than those with stocky ones.

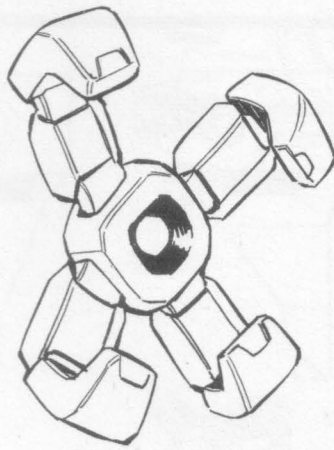
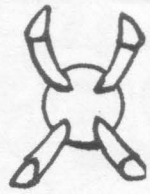
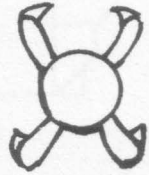
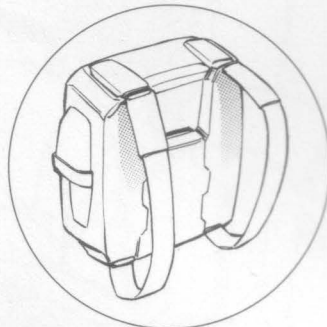
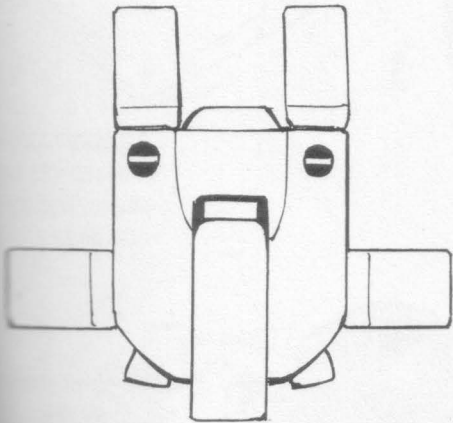
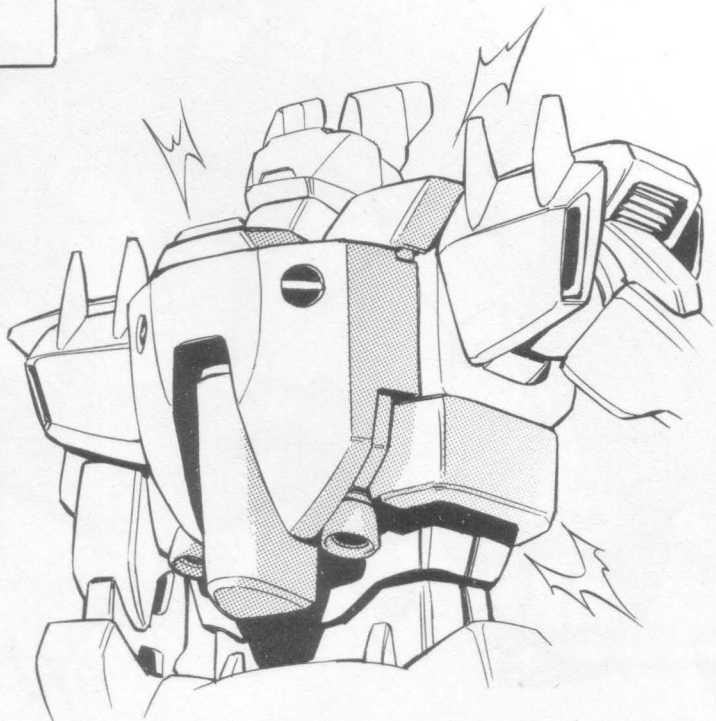
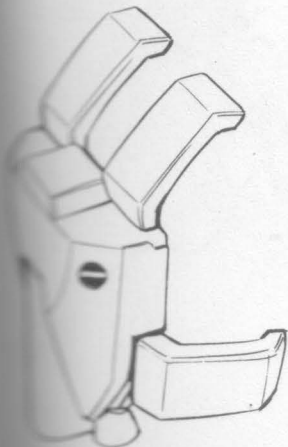
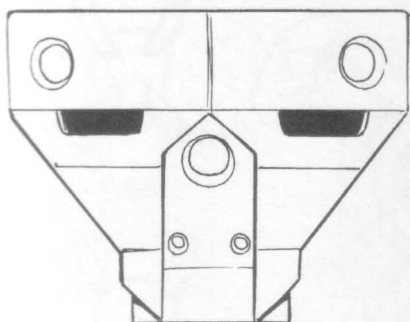
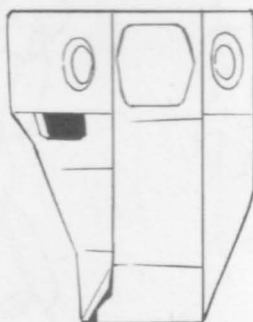
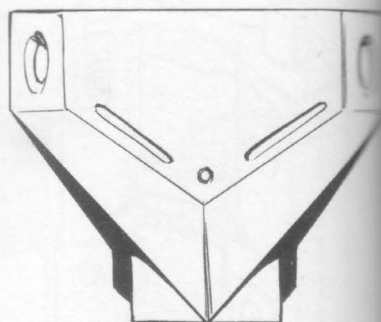
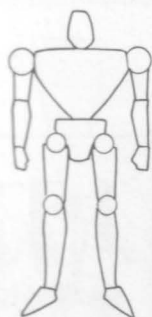
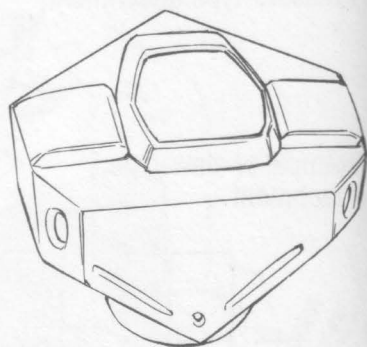
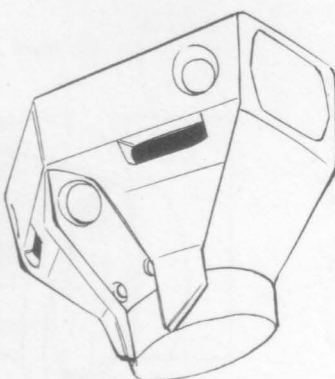
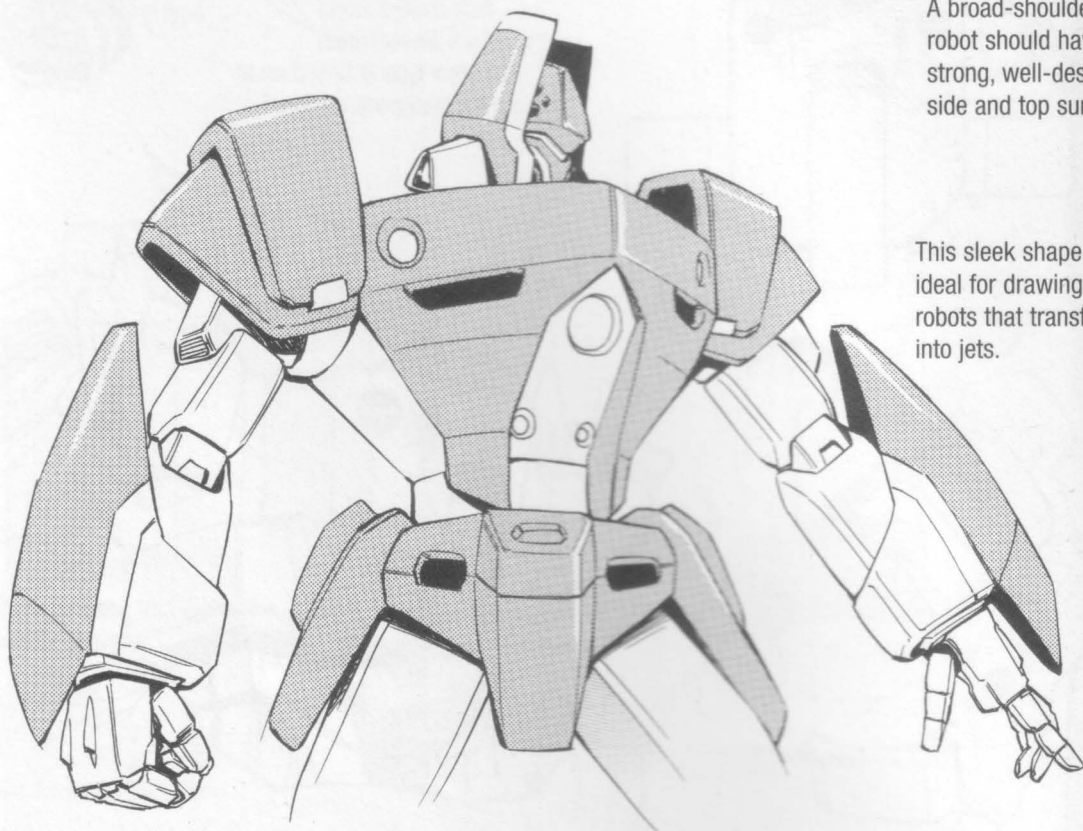
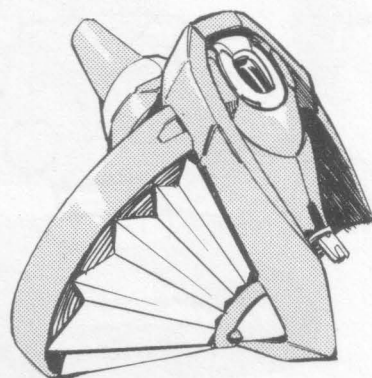
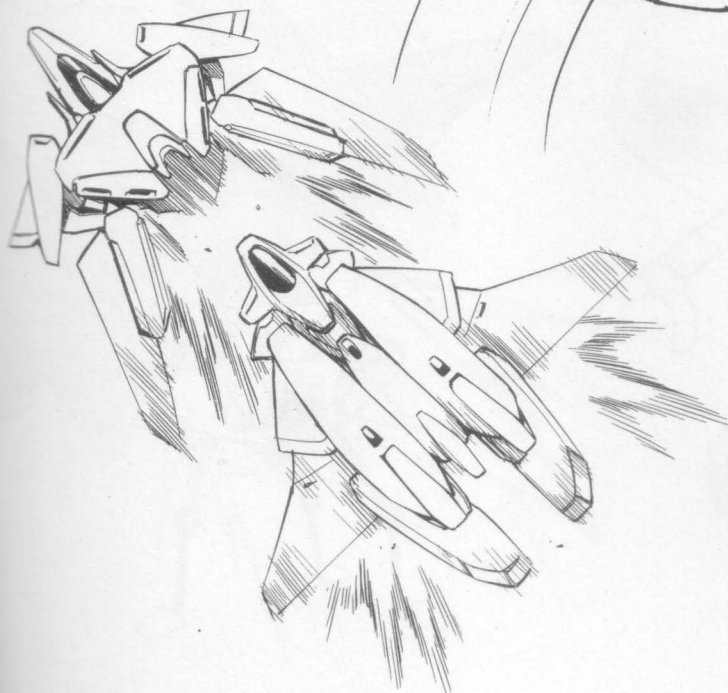
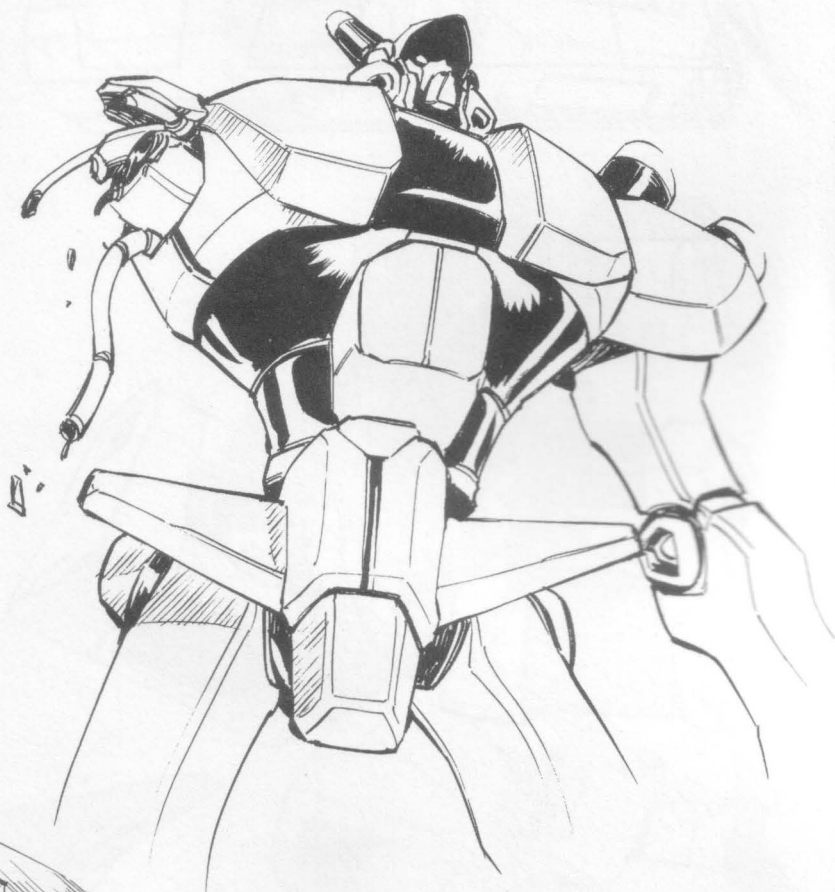
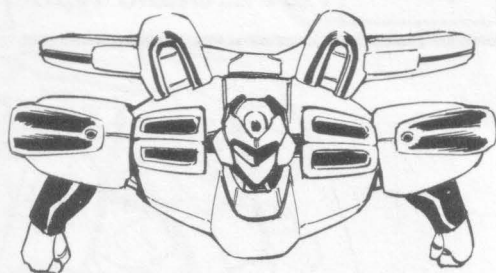
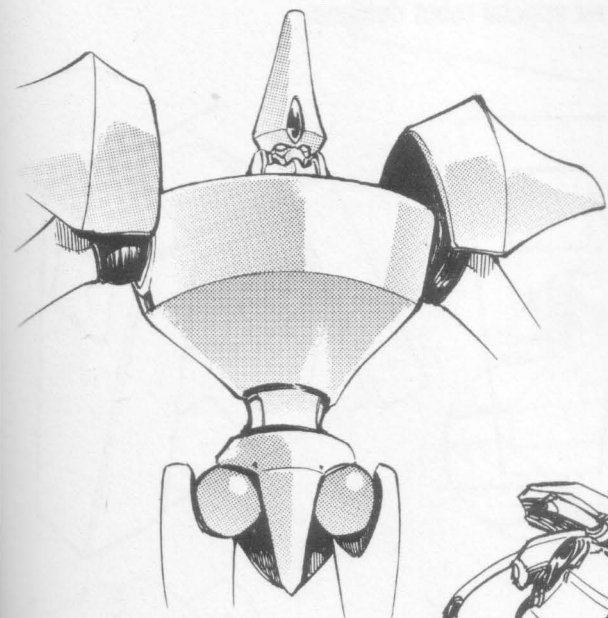
Long-trunk type: thin inverted triangle

ort-trunk type

Trunk Type 2: Box-shaped Body

The box type tends to be simple, which makes it easy to draw a robot that looks heavy.

Front

Side

Back

Looking down from front

Looking down from behind

Box-shaped Body Variations

Use a powerful composition since it is easy to draw in perspective.

Trunk Type 3: Board-shaped Body

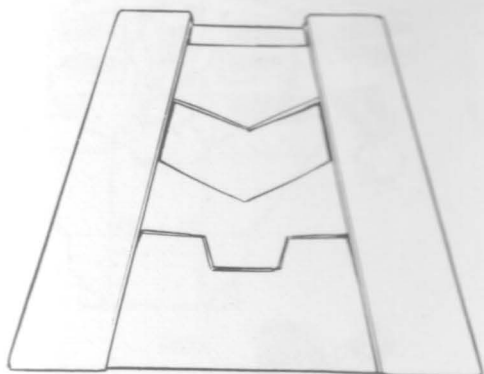
Attempt to make the most of this thing by making it sharp while also thinking about adding unevenness.

Front

Side

Back

Looking down from front

Looking up from behind

Board-shaped Body Variations

This type is suited to sharp, speedy robots.

One approach is to imagine the flapping of wings or arms when designing a robot with a thin trunk.

Trunk | Back

Equip your robot with an array of mechanical devices.

Flying device such as a jet pack

Weapons, fuel tanks, etc.

Basic Components of Transformable Robots

Mechanical docking type

Choose parts that complement the body type.

A simple back that looks like nothing is there

Part with the same surface as the back

Attachable Units

Pressure-attachment units stay in place using magnetic force or suction.

Pressure-type attachment

Claw type

Example of claw-type attachment

The claw type is based on a simple backpack design.

Chest Part 1: Inverted-triangle Type

Front

Side

Back

Male form

A broad-shouldered robot should have strong, well-designed side and top surfaces.

This sleek shape is ideal for drawing robots that transform into jets.

Close-up view of the back of a transformable robot.

Chest Part 2: Stand Type

This shape is suited to tank-type robots and other special robot designs.

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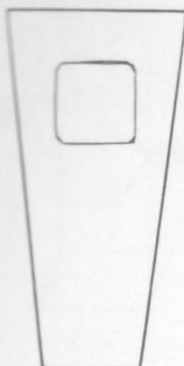
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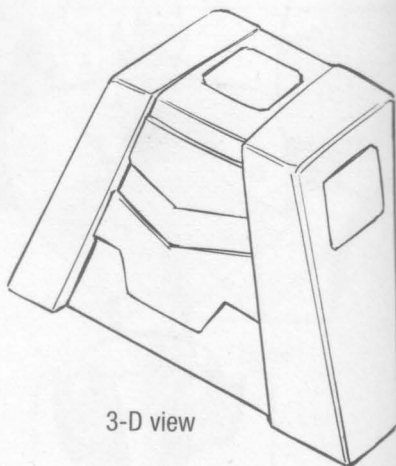
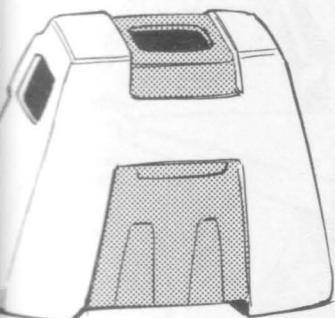
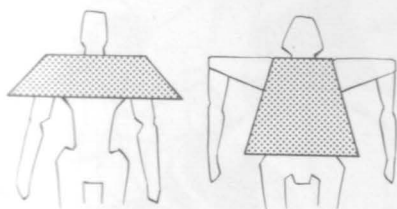
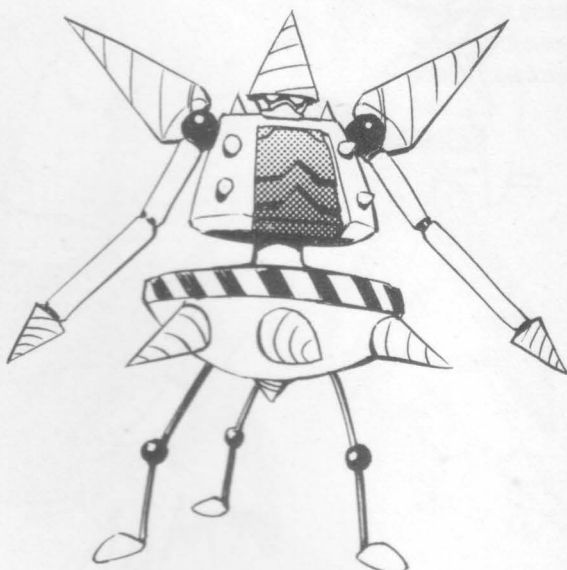
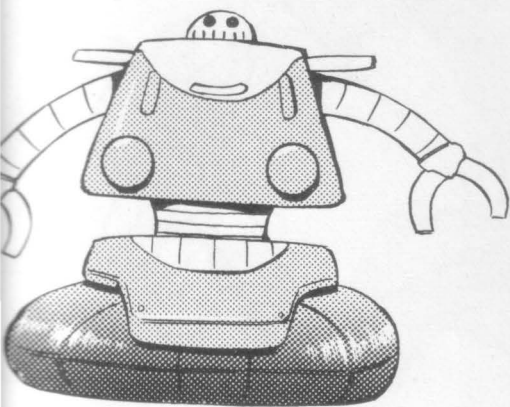
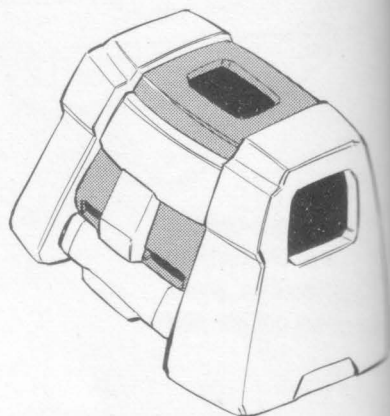
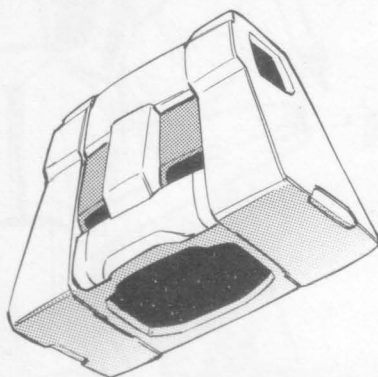
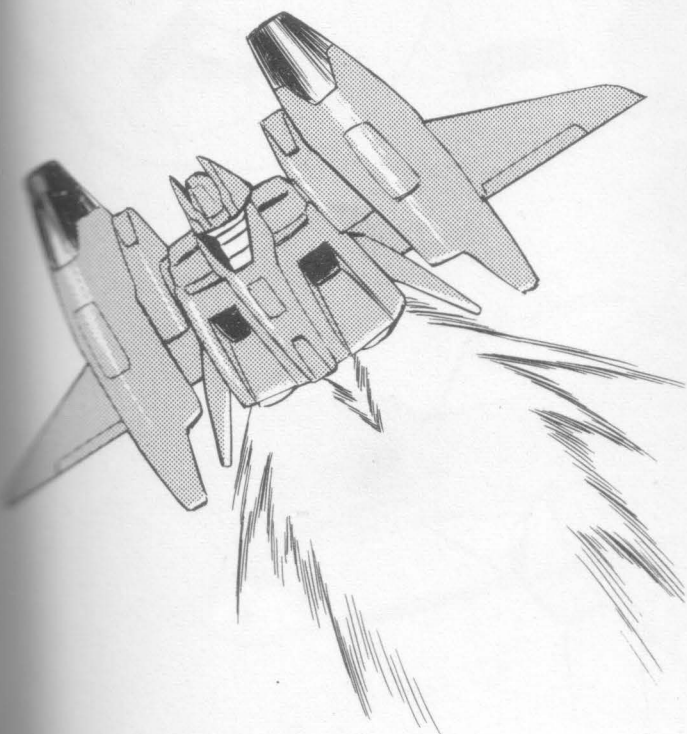
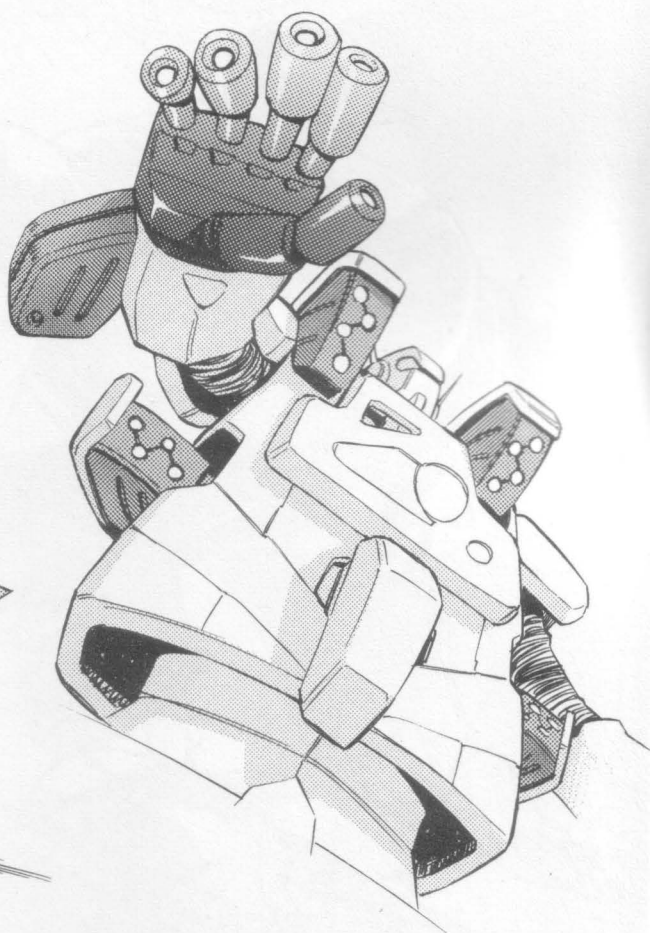
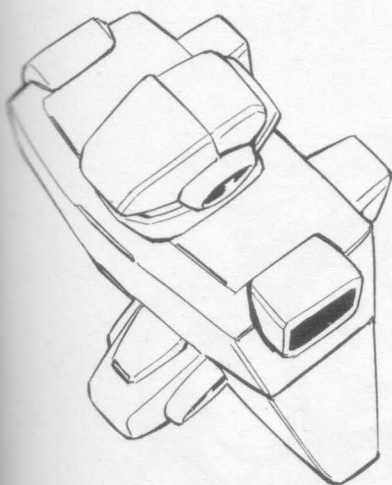
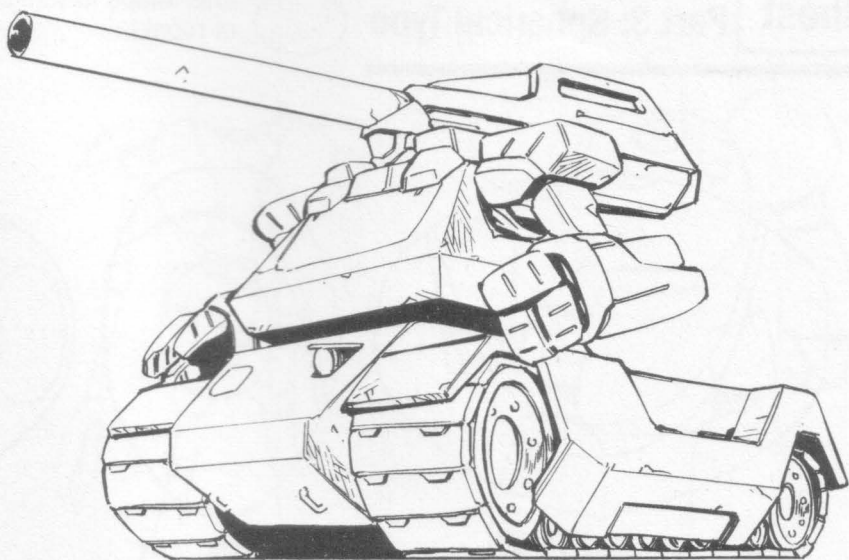
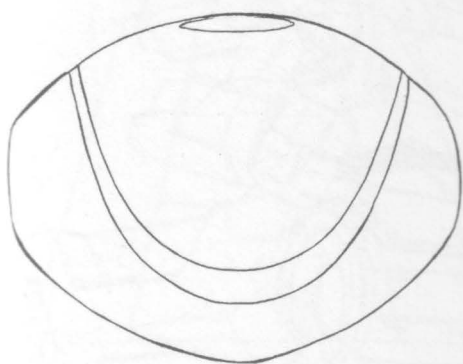
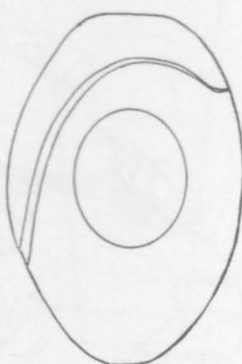
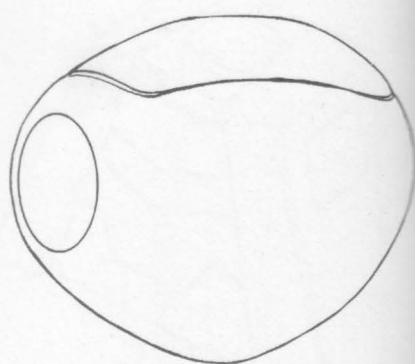
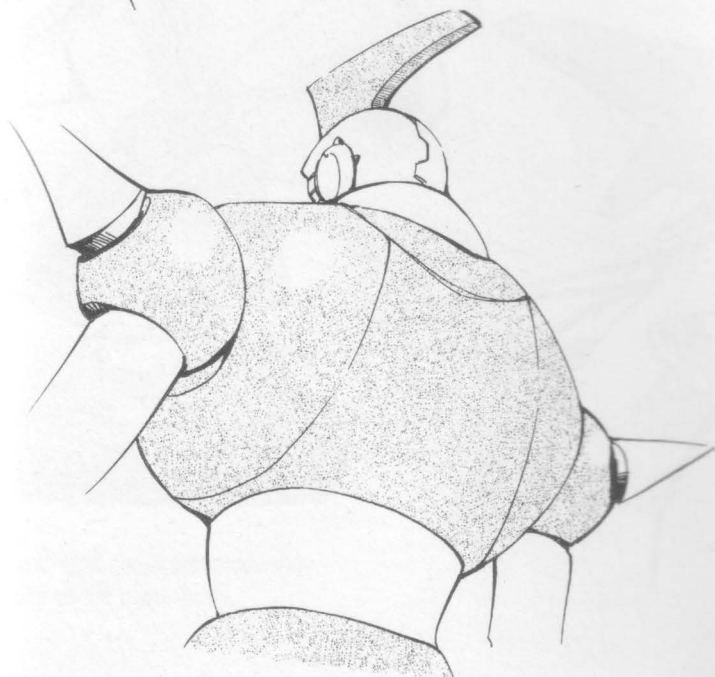
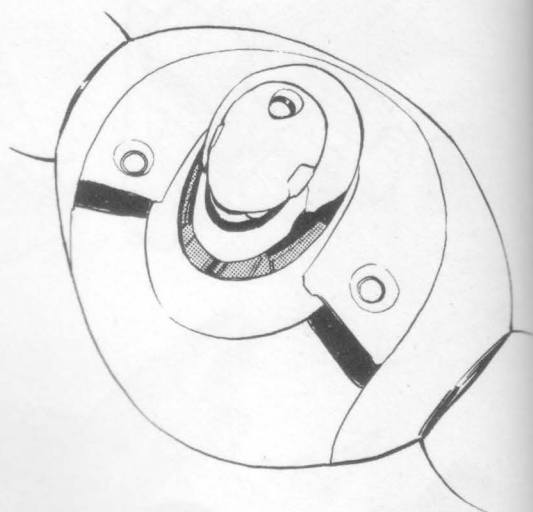
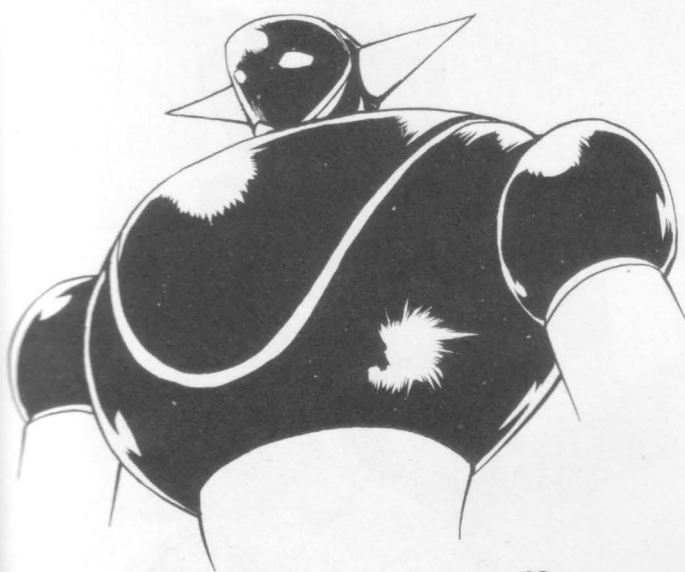
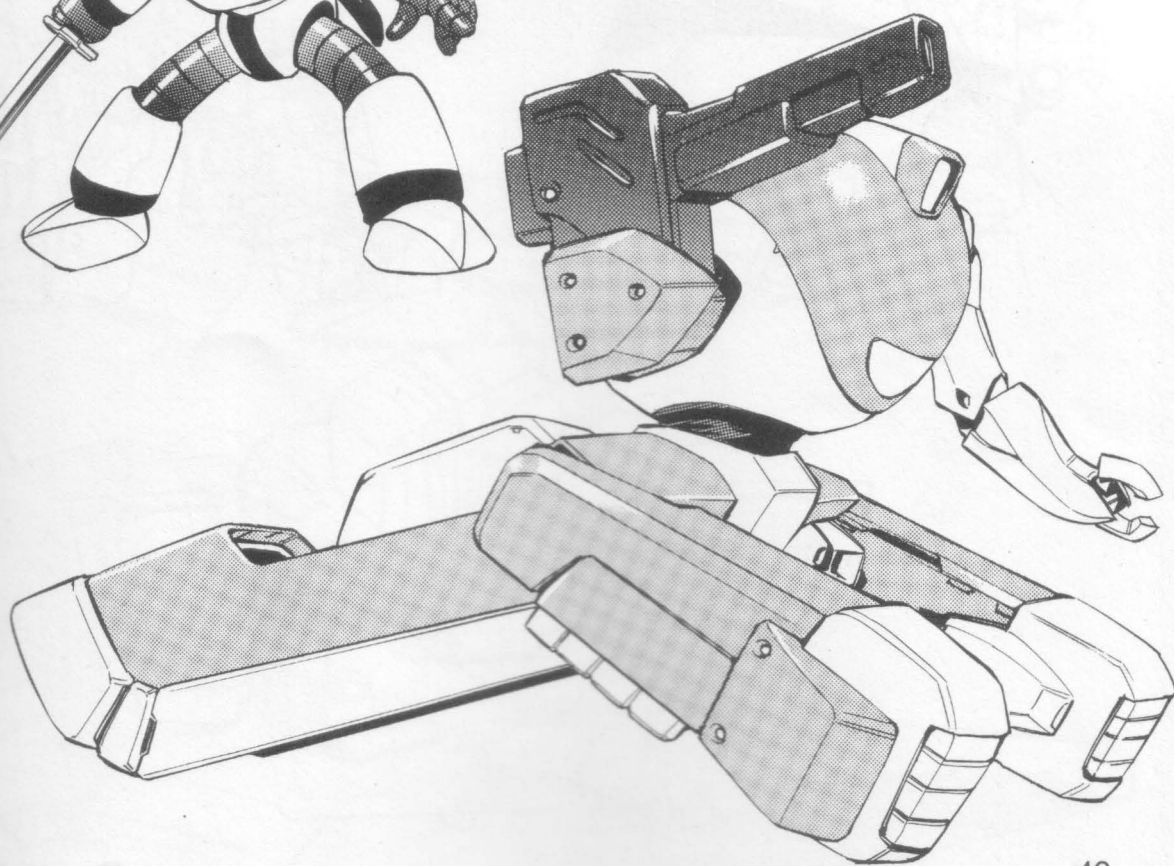
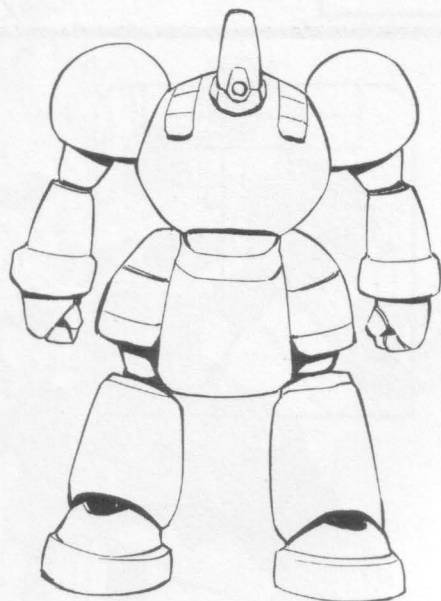
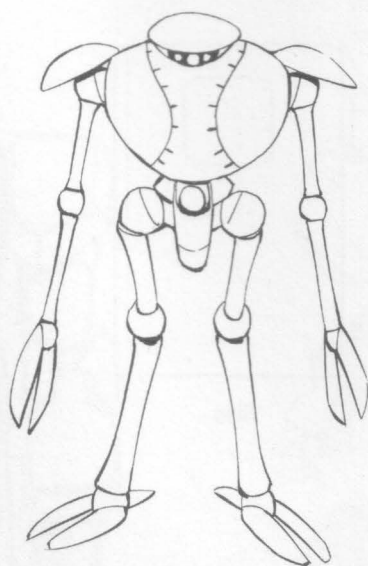
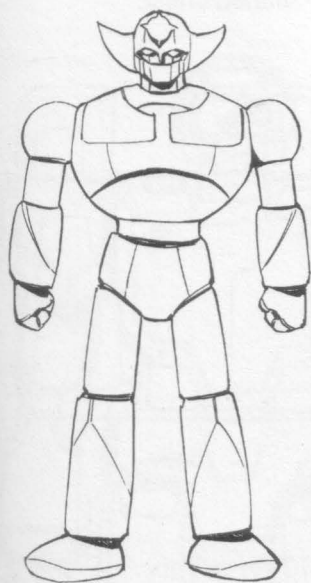

3-D view

Back

The stand-type chest enhances the originality of the lower body.

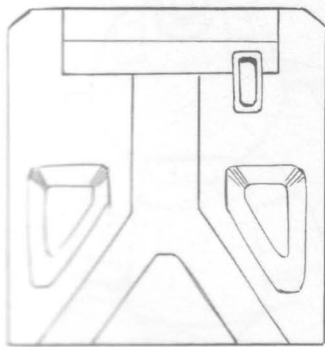
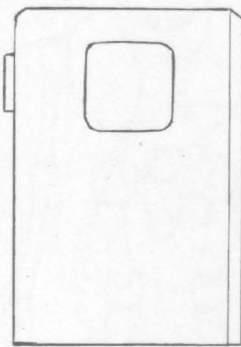
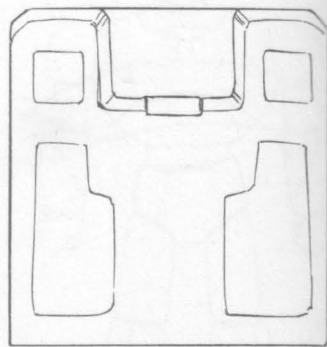
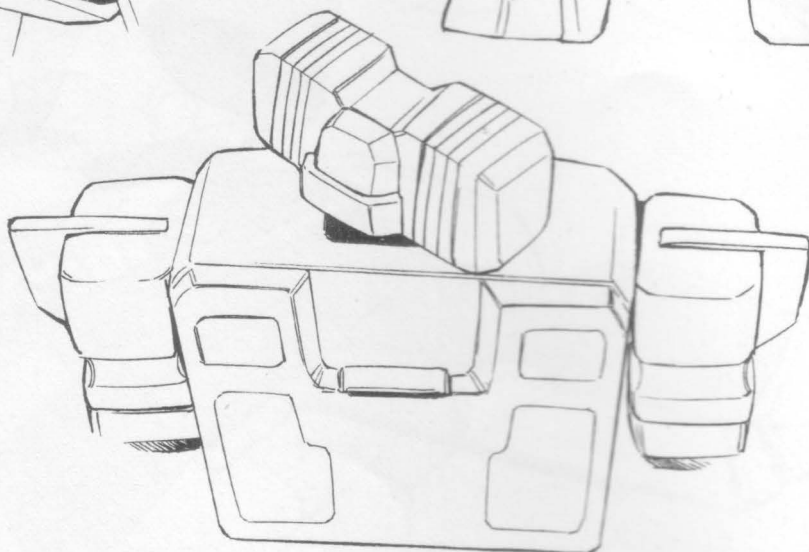
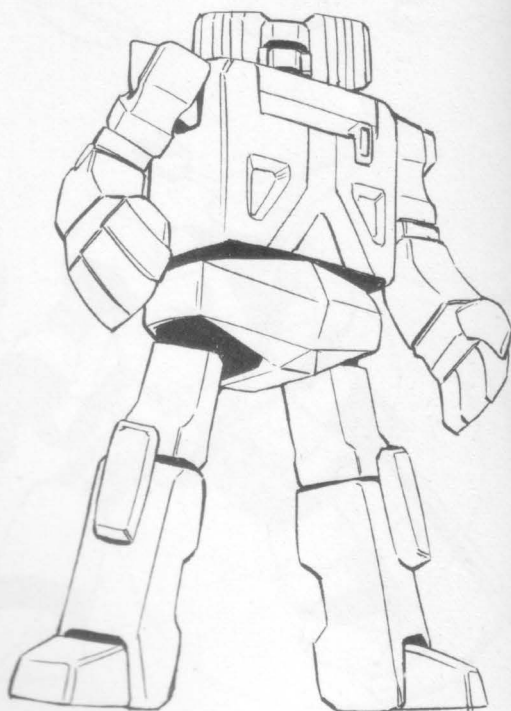
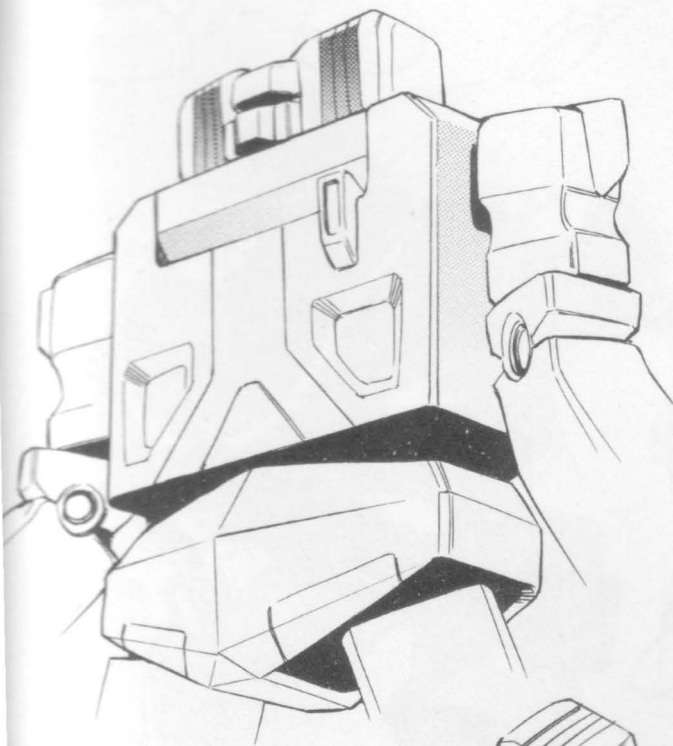
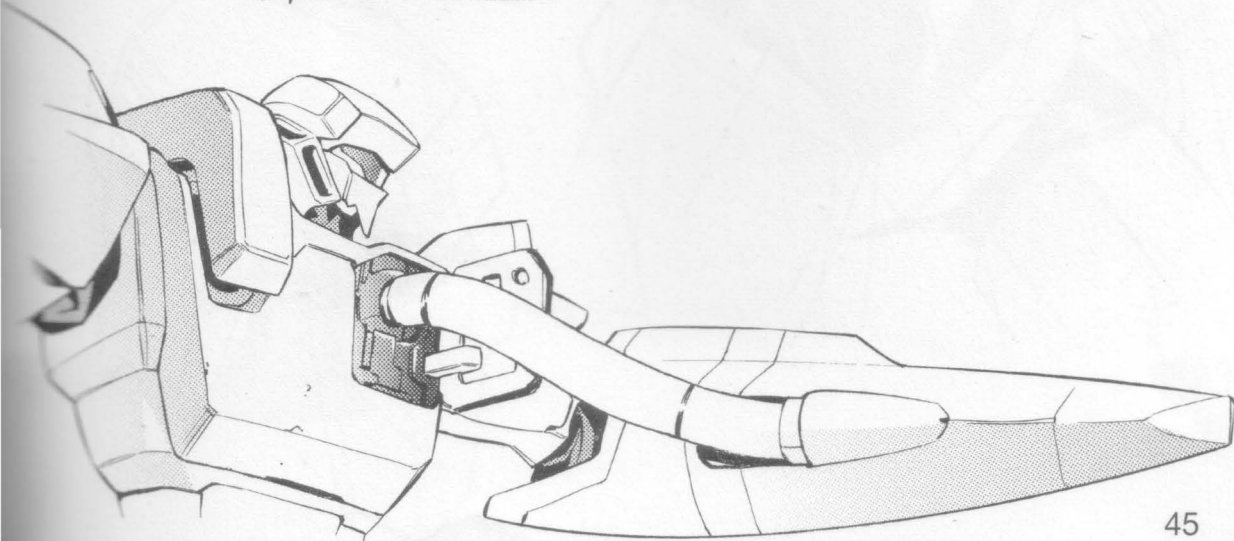
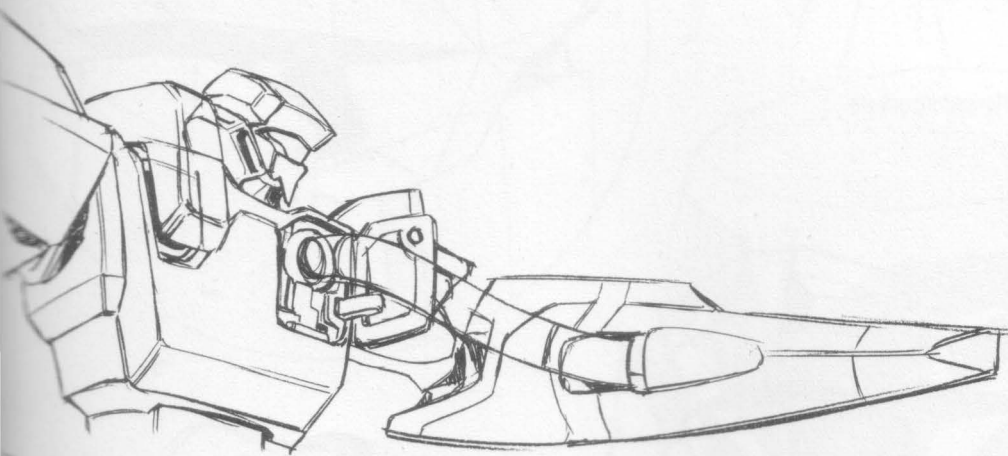
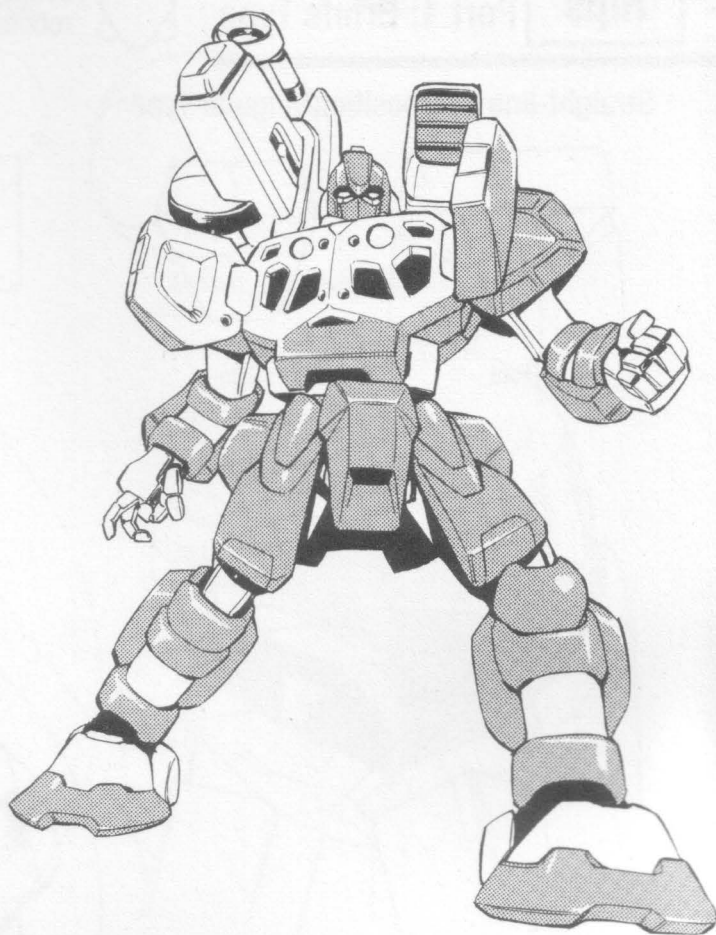
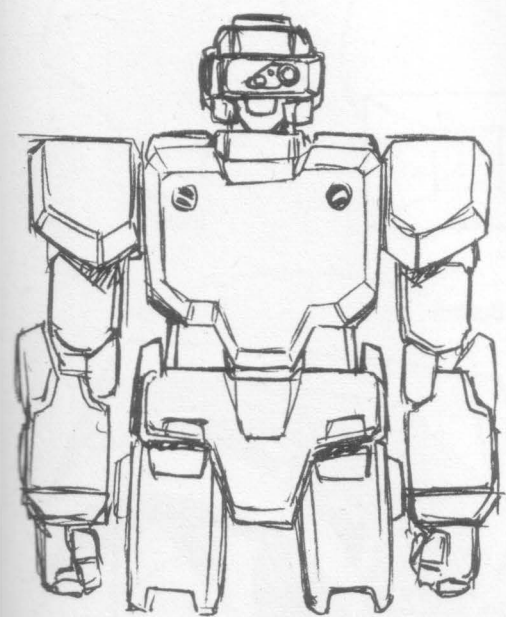
Chest Part 3: Spherical Type

This shape is suitable for drawing all types of robots.

Chest | Part 4: Square Type

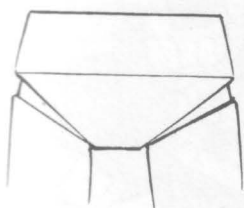
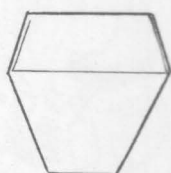
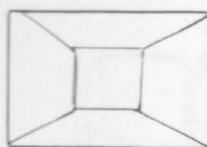
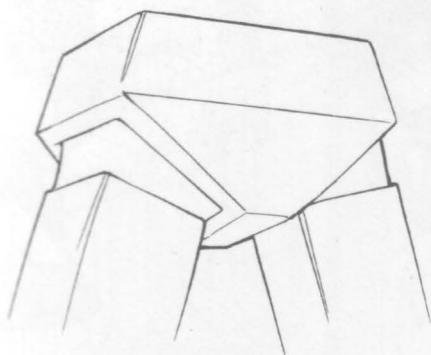
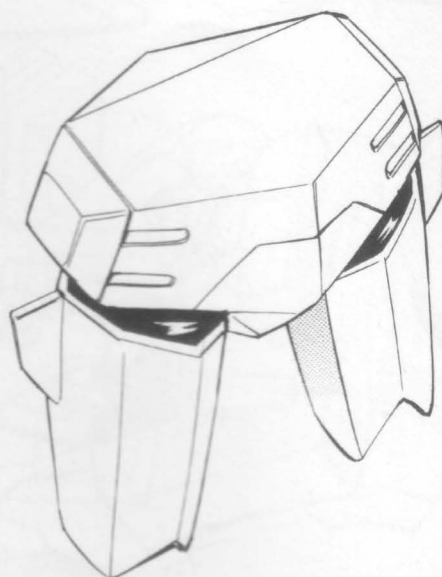
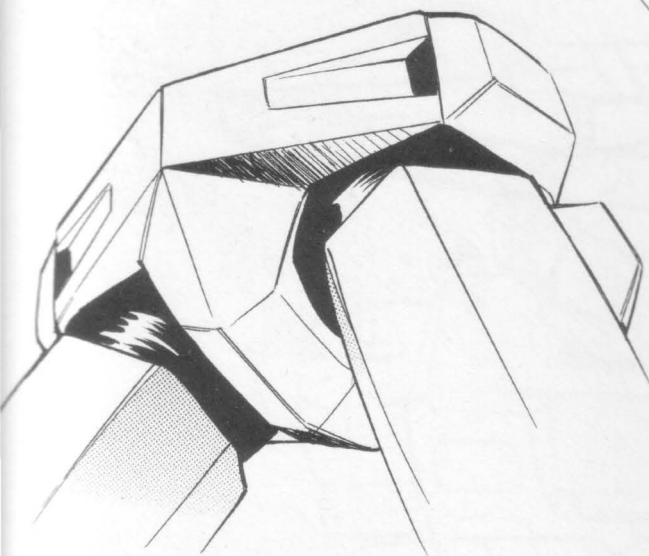
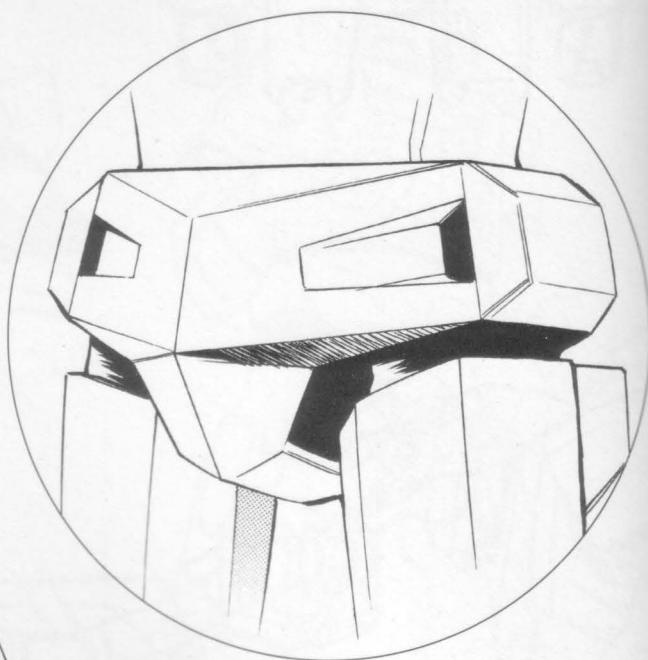
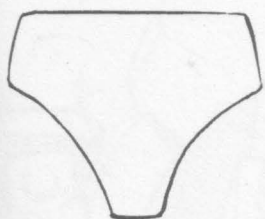
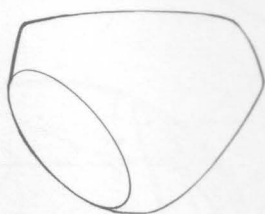
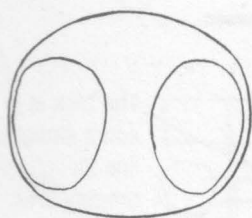
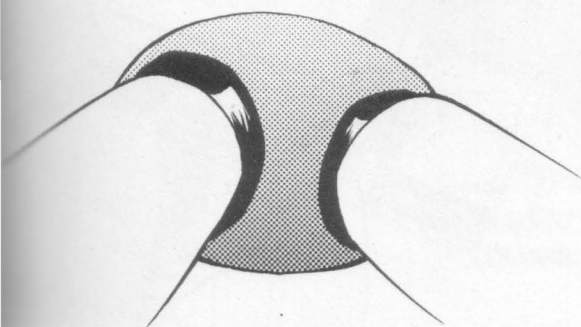
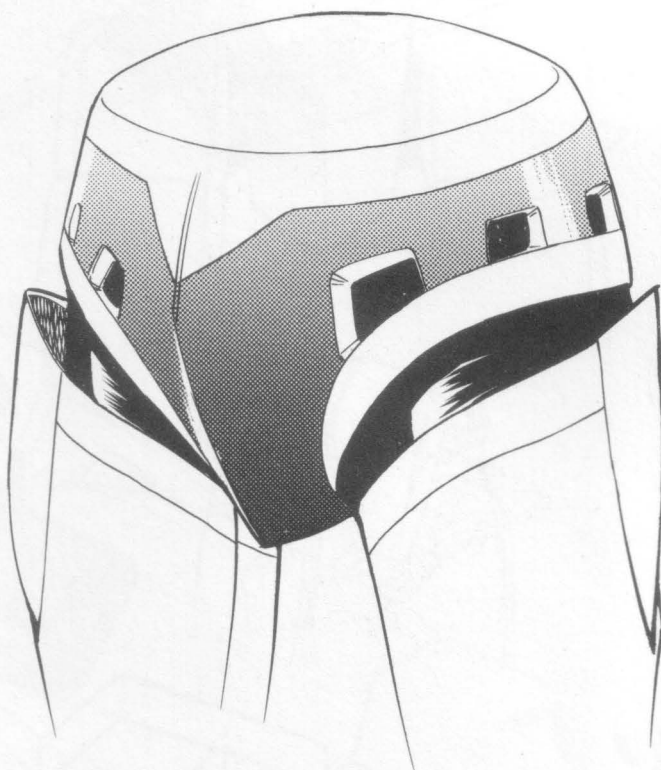
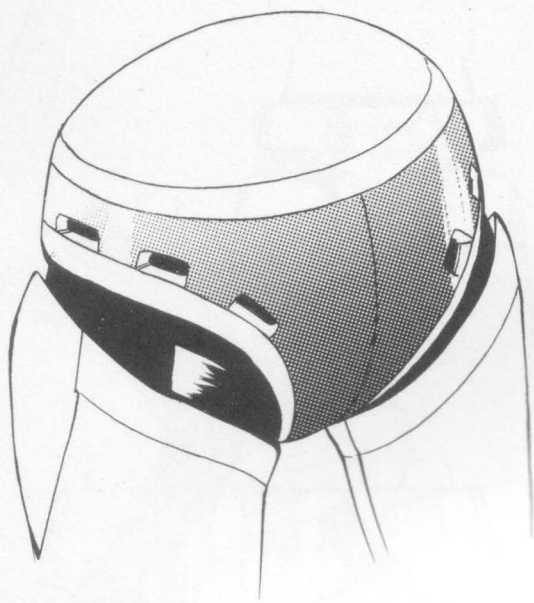
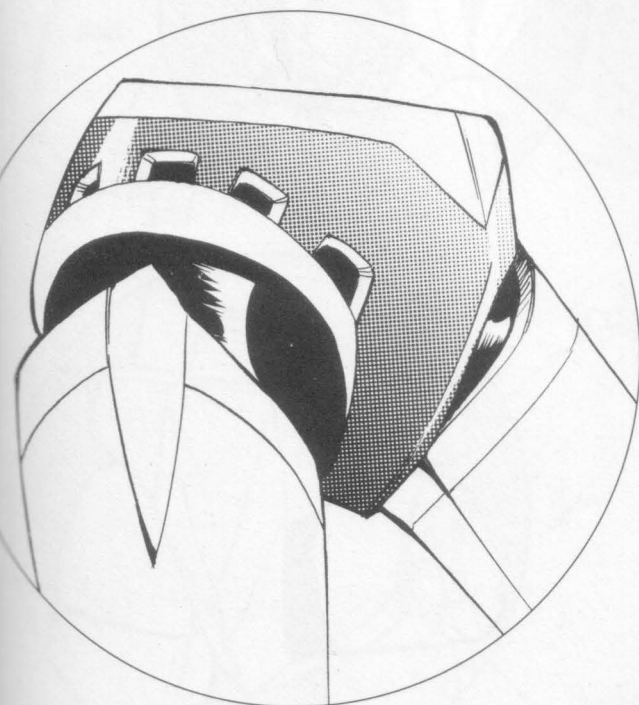
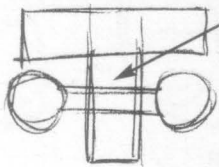
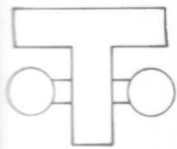
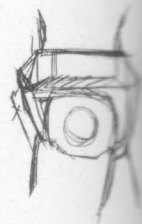
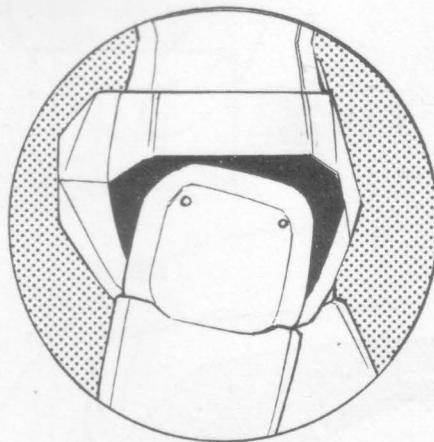
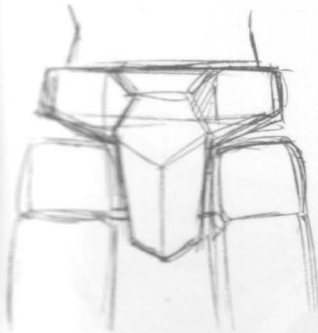
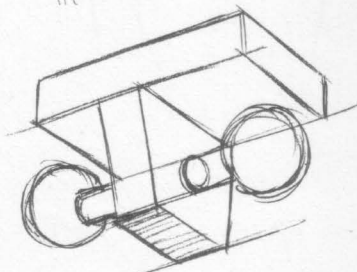
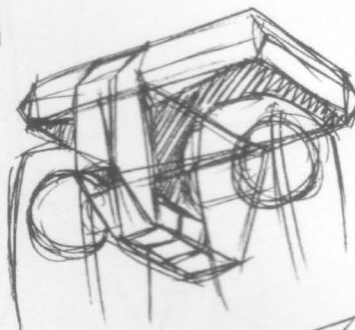
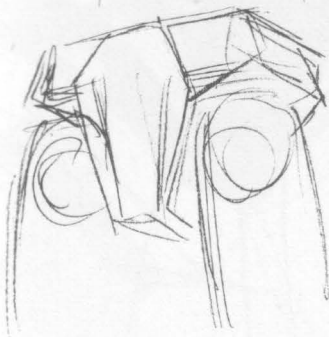
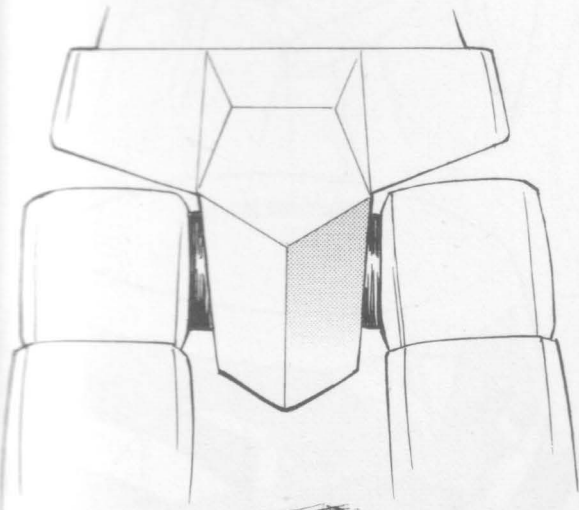
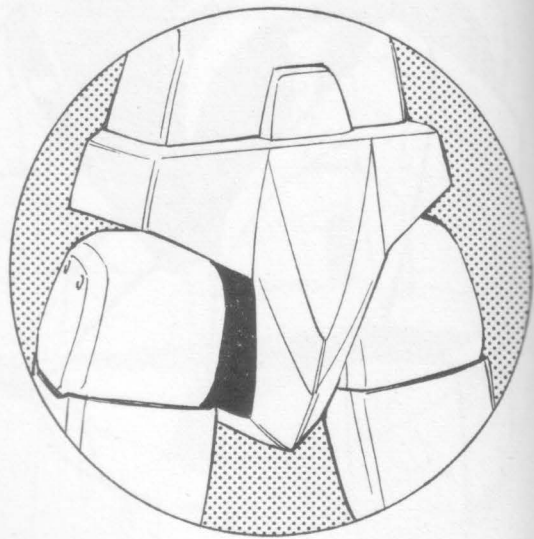
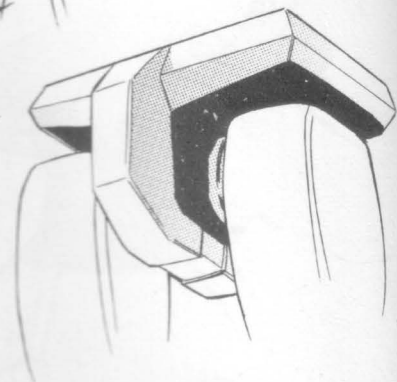
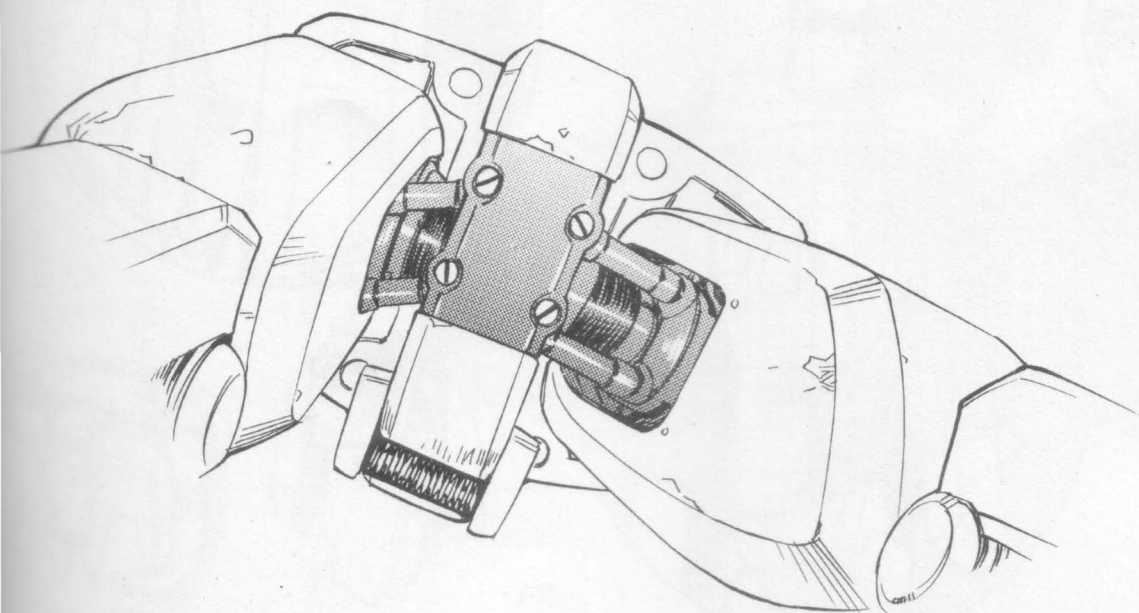
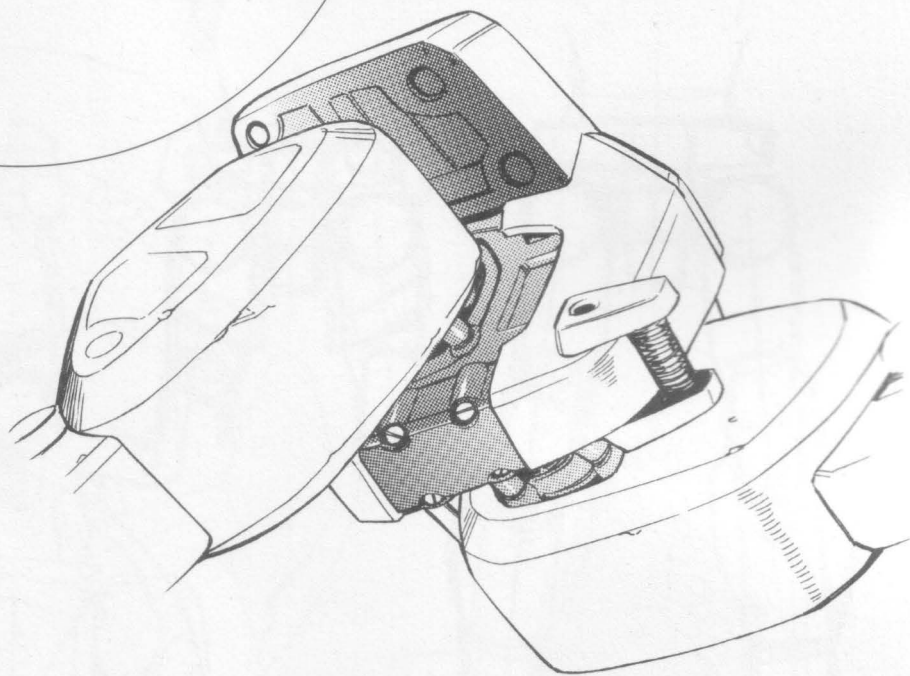
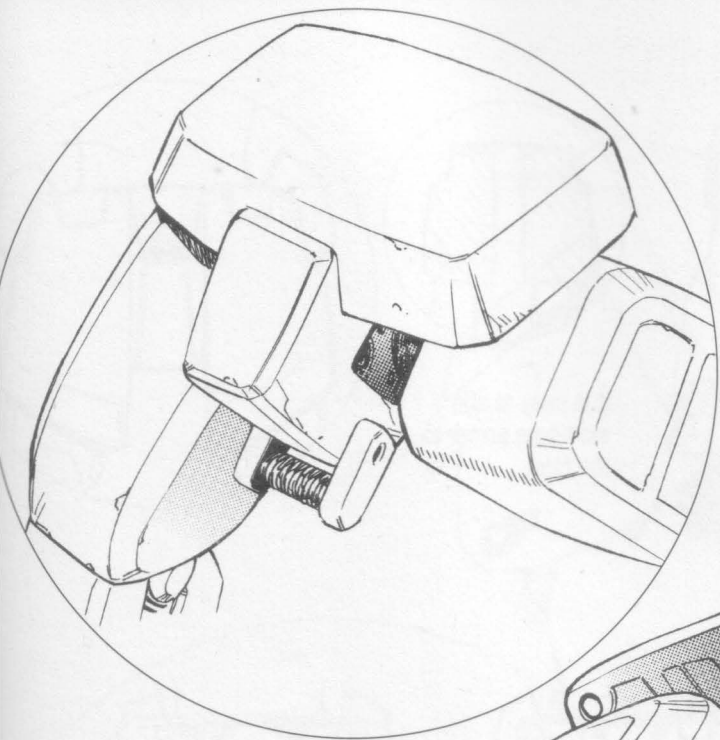
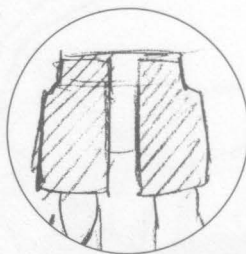
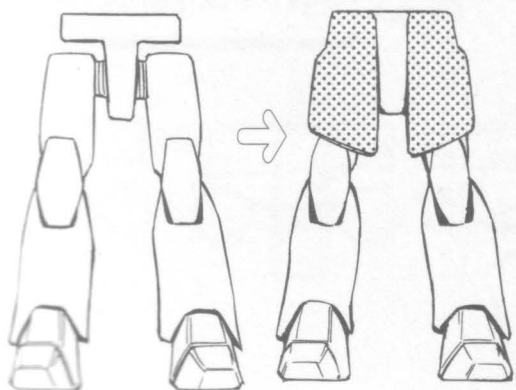
It is easy to attach a variety of parts and optional equipment to a square-shaped chest.

Front

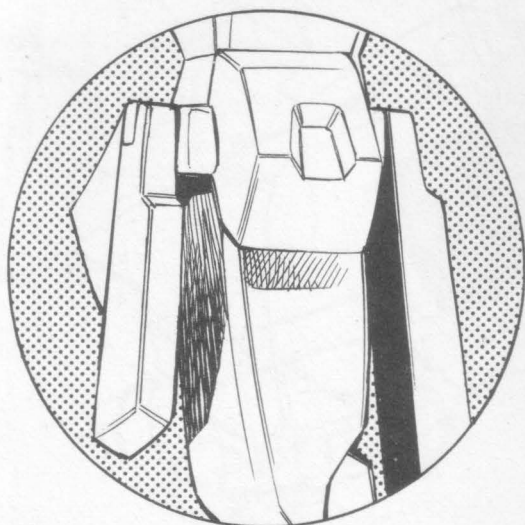
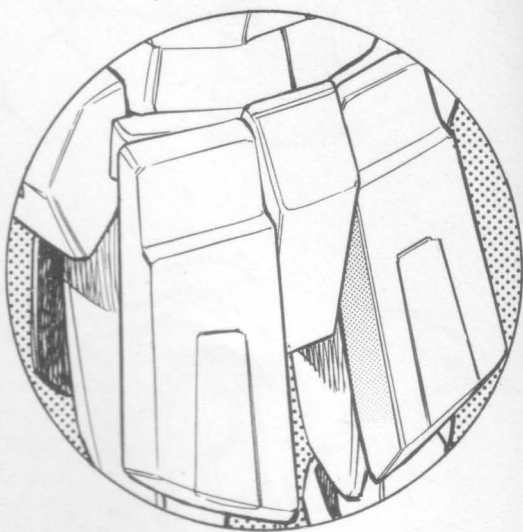
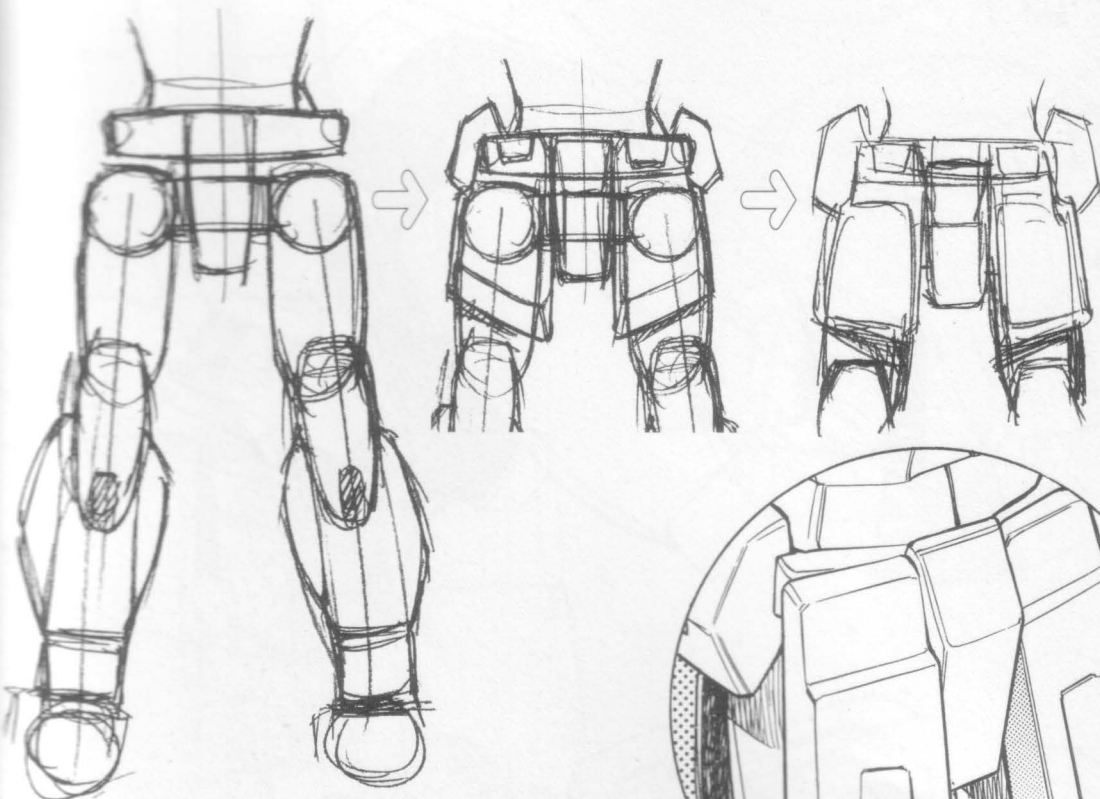
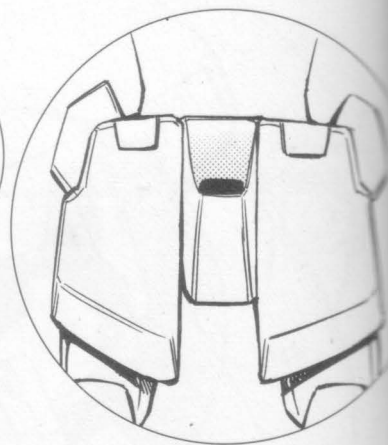
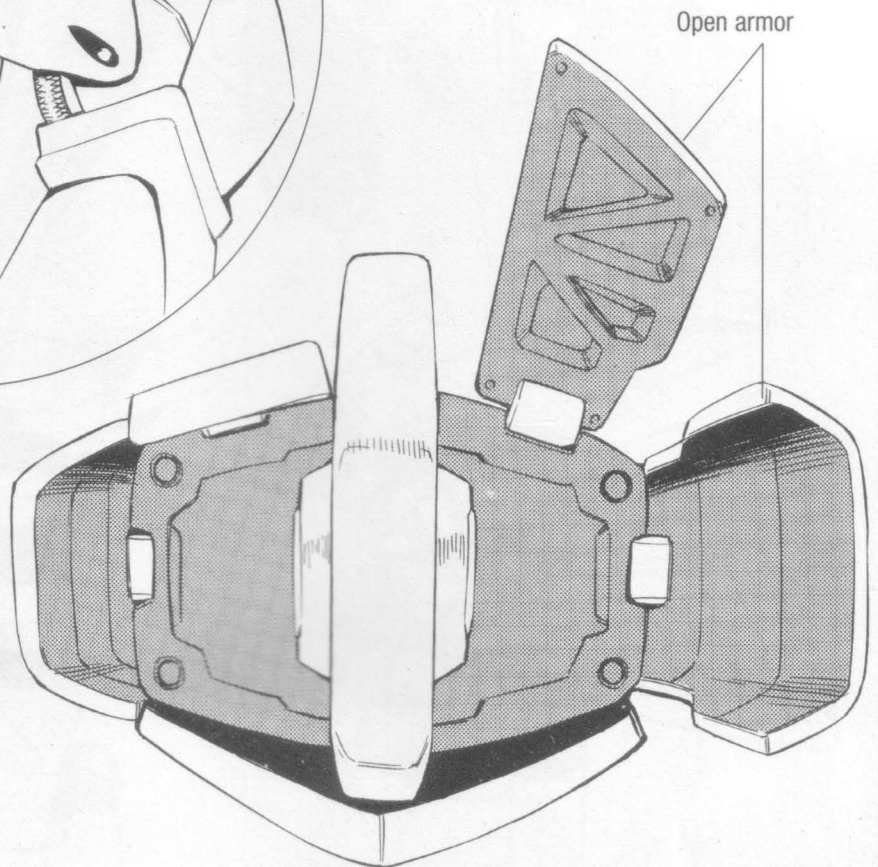
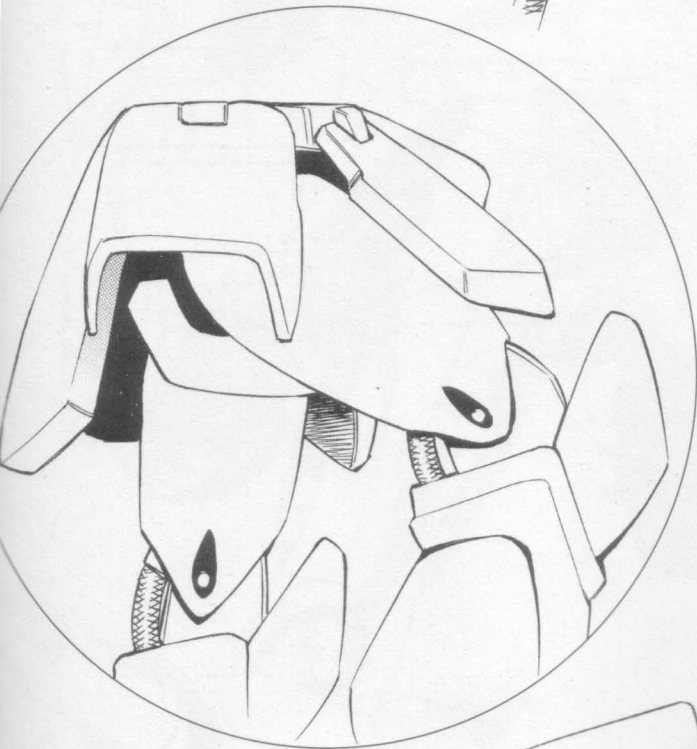
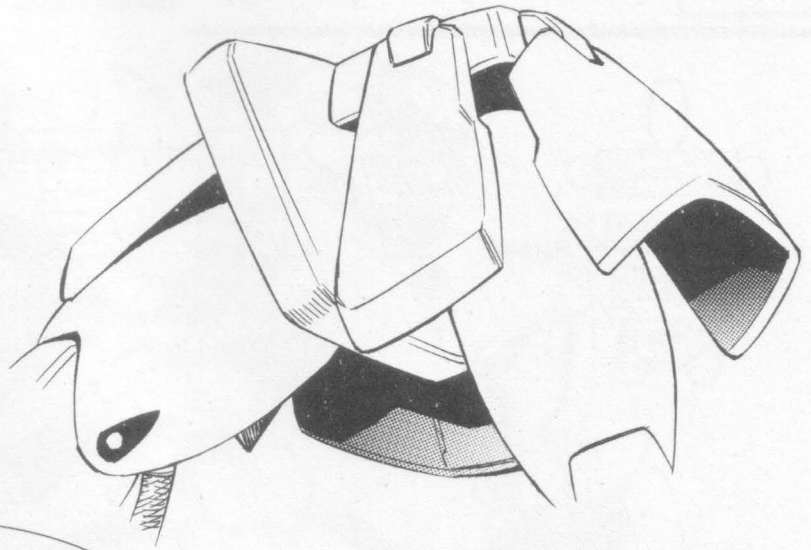
Side

Back

Hips | Part 1: Briefs Type

Tends to be comical. Suited to manga-type robots rather than realistic robots.

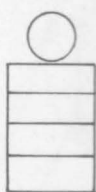
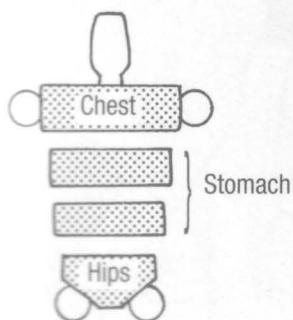
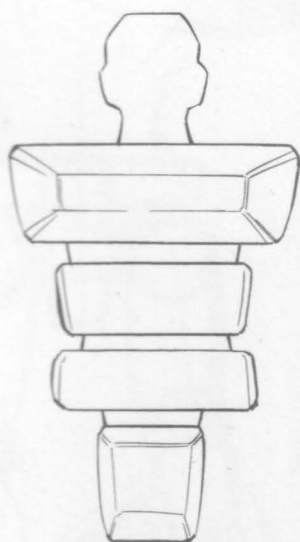
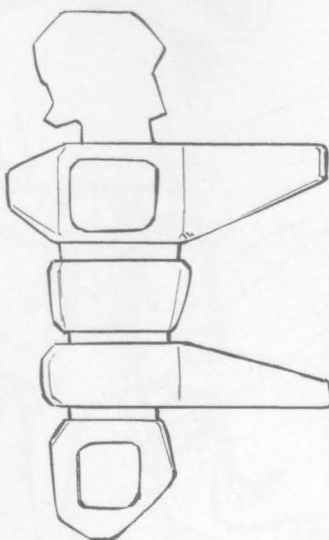
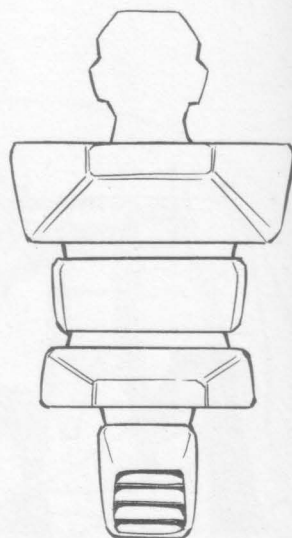
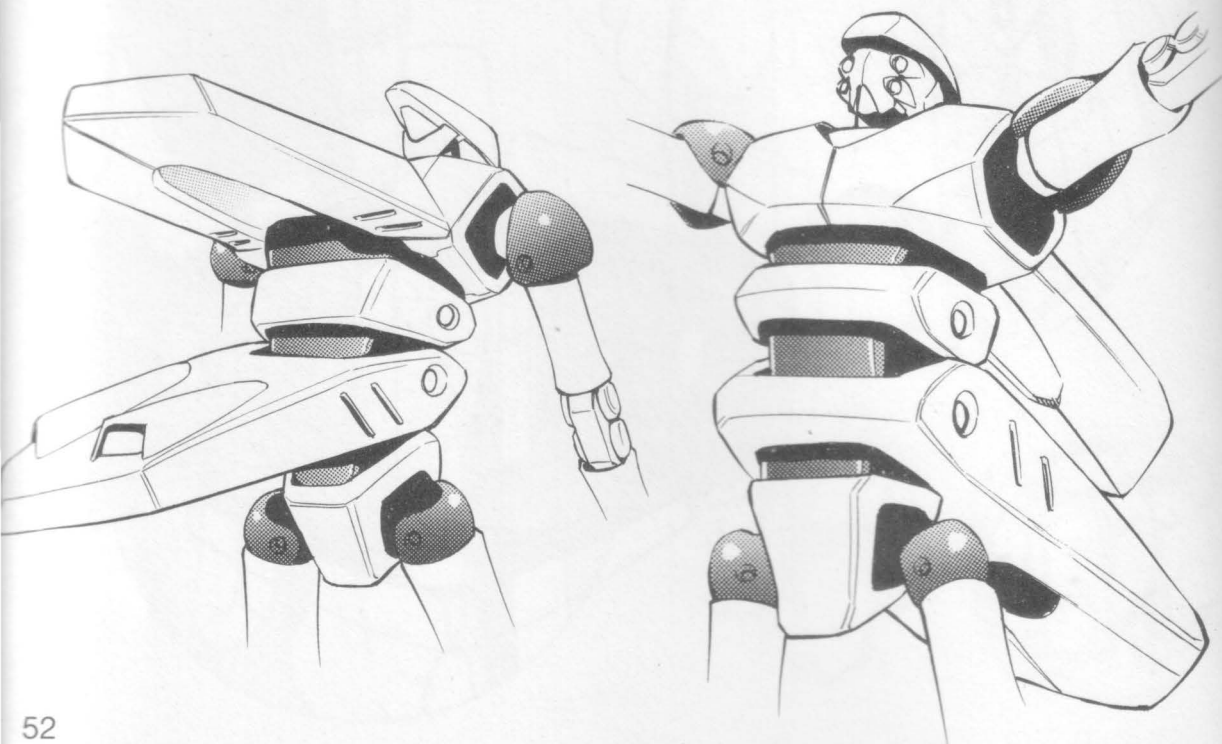
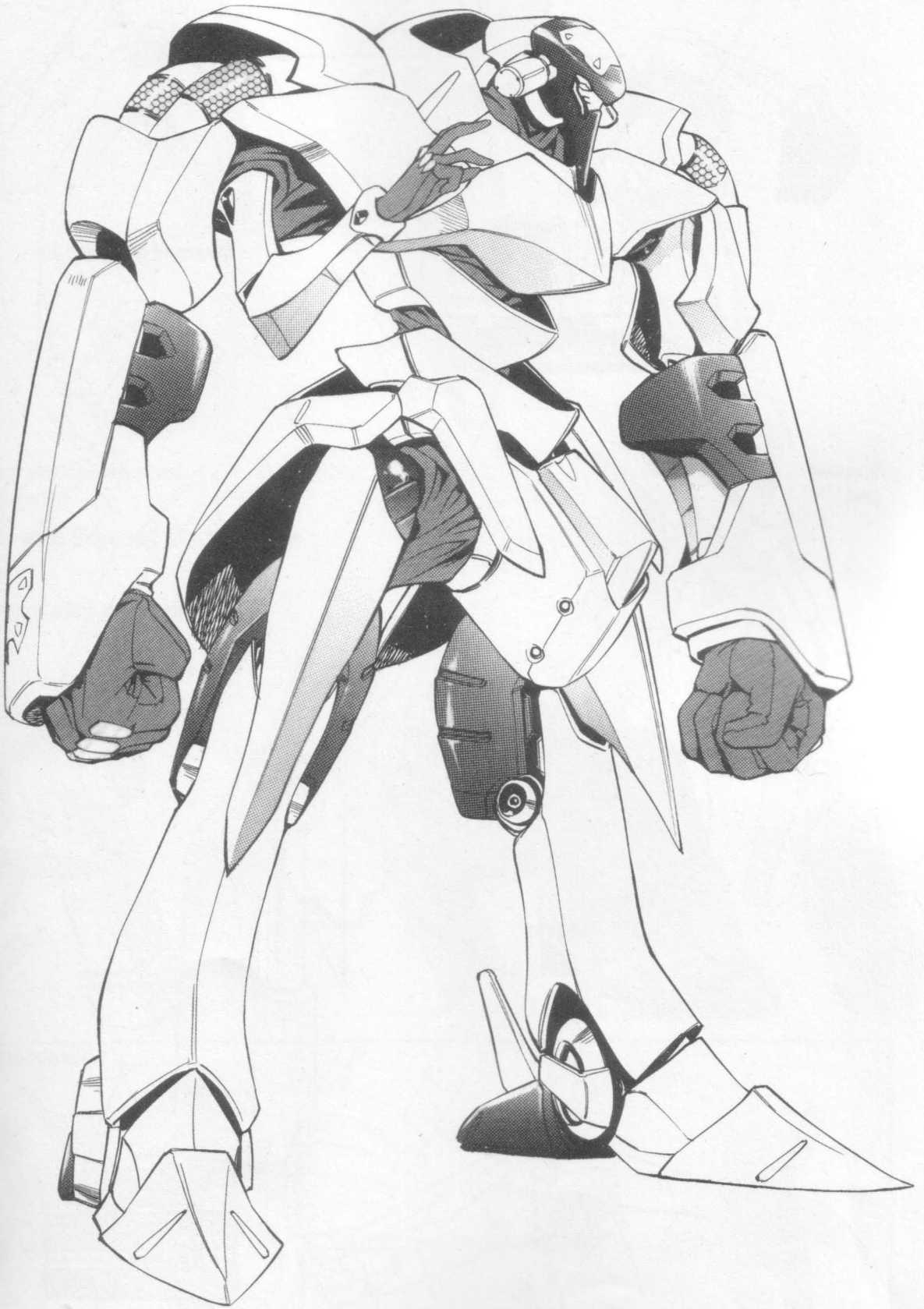
Straight-line Composition/Angular Type

Front

Side

Bottom

Typical structure

Curved-surface Composition/Spherical Type

Hips
Part 2: T Type
This type is ideal for drawing combat robots.
The trick is to add a straight line for reference.
Side
Front
Typical hip joint structure

T Hip Joint Variations

It is easy to add skirt-type armor to the hips.

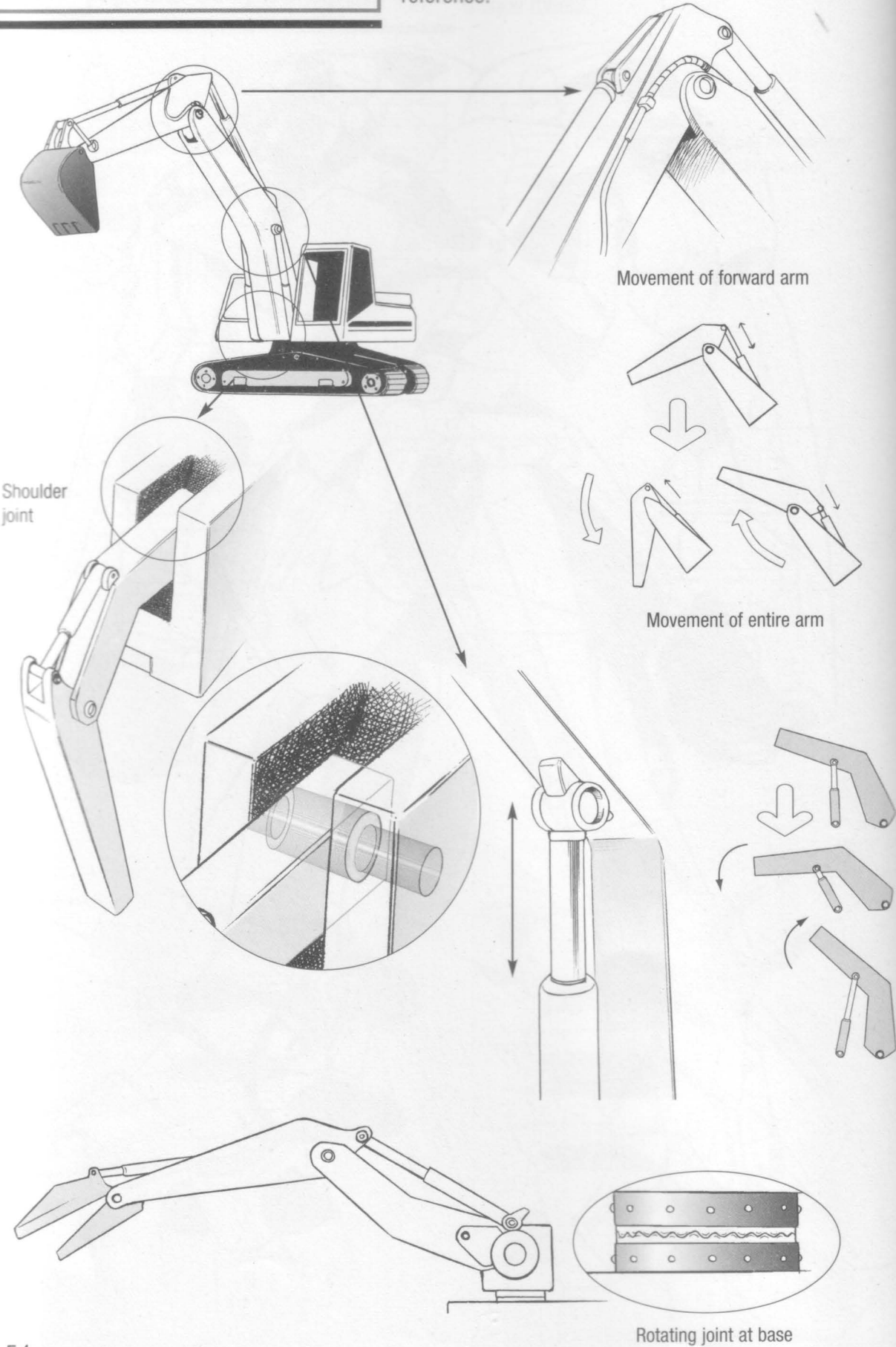
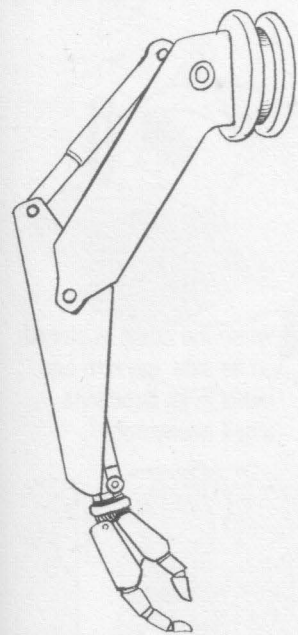
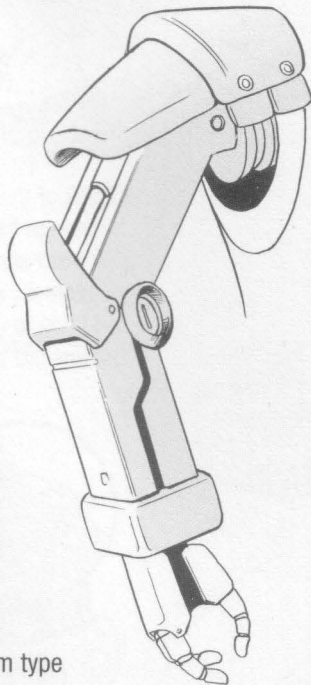
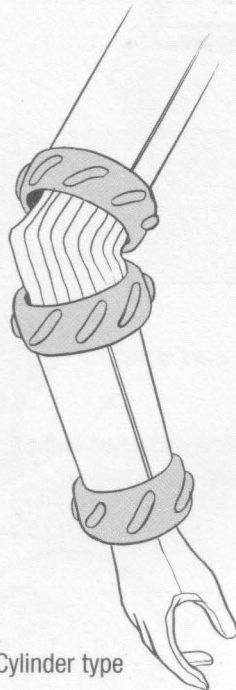
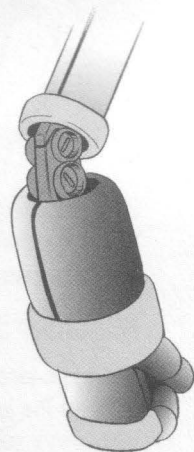
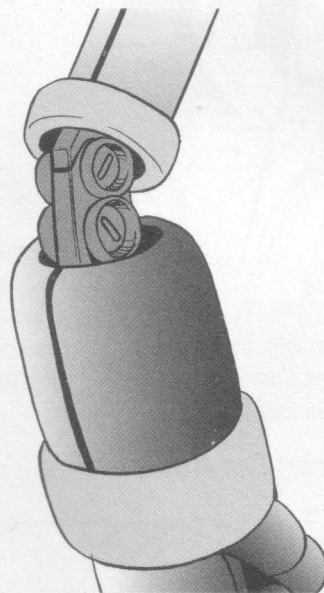
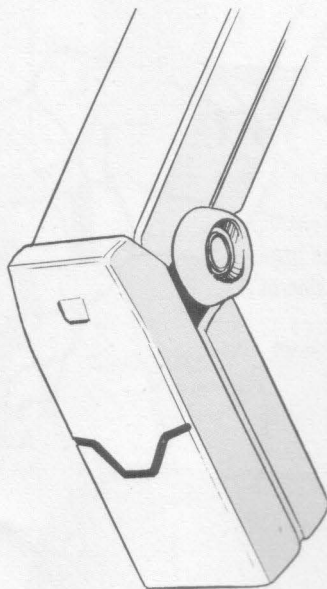
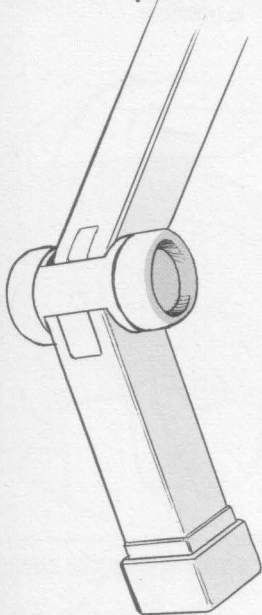
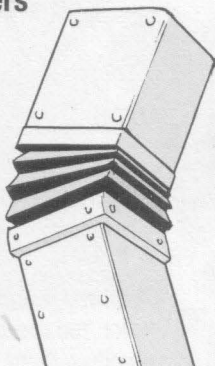
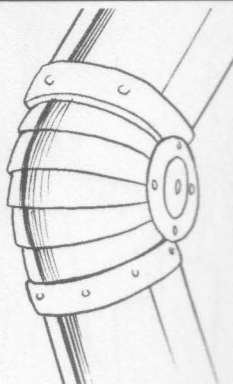
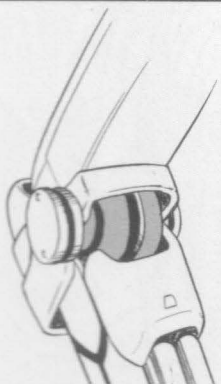
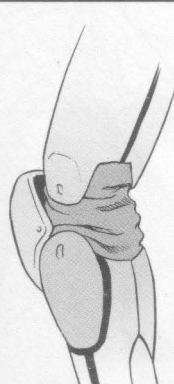
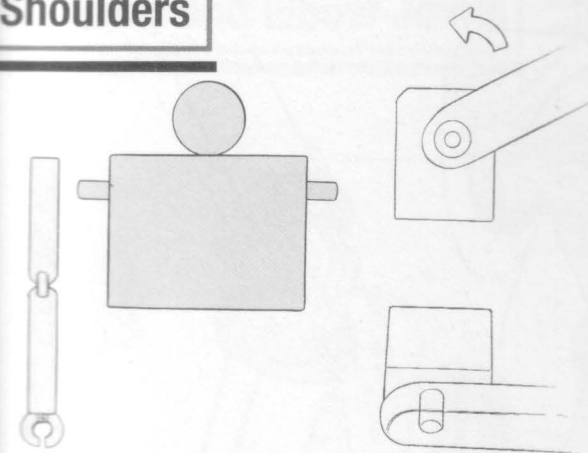
Open armor

Trunk | Special Body/Centipede Type

Use this body type to design original, unique robots.

Chest

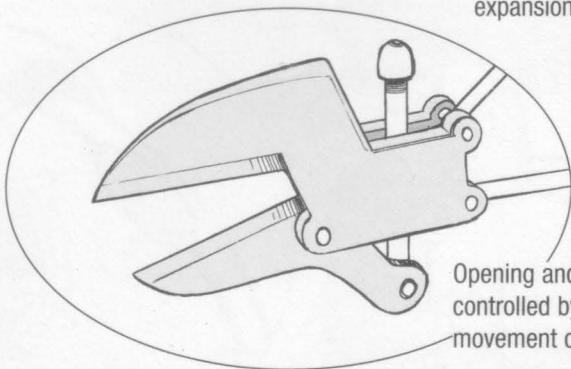
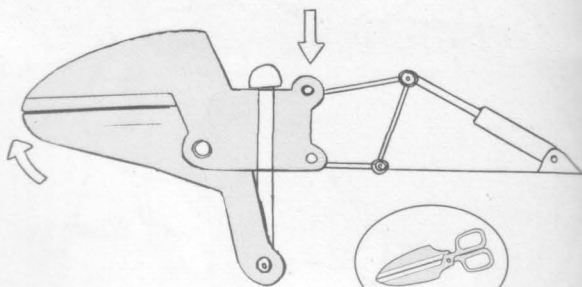
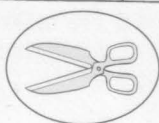
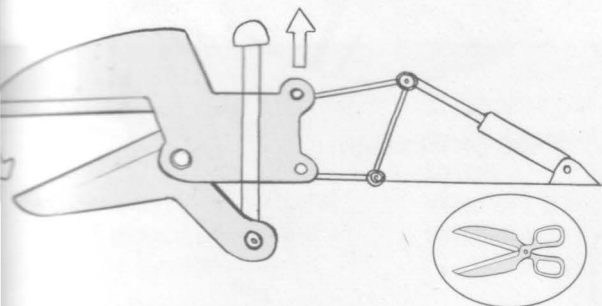
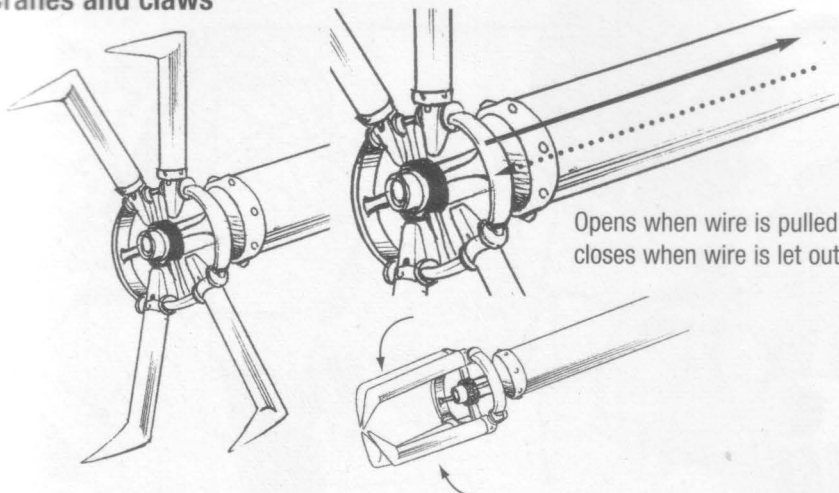
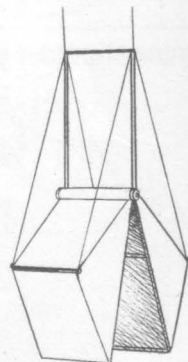
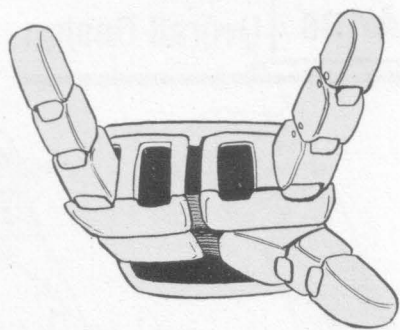
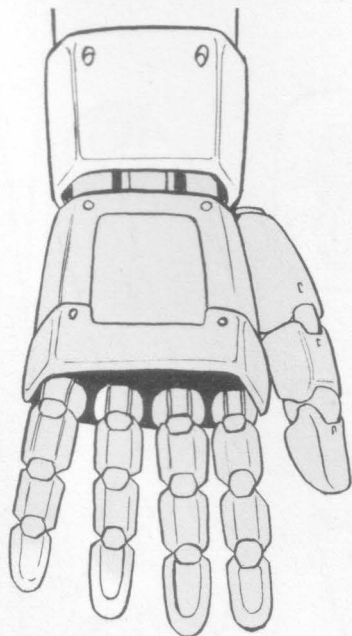
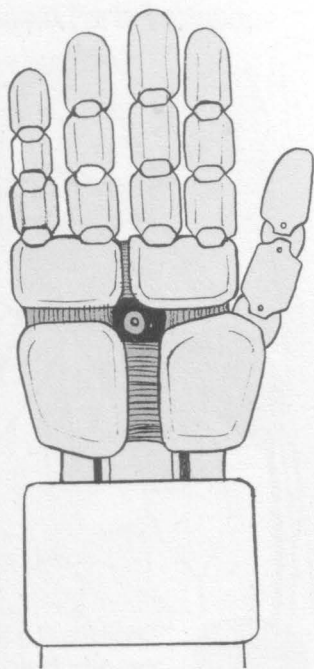
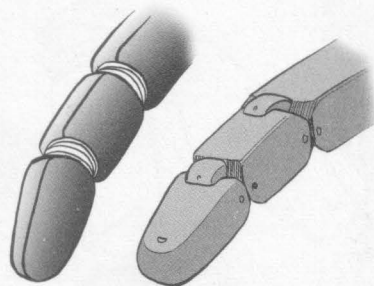
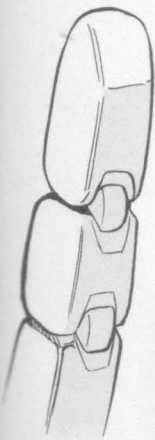
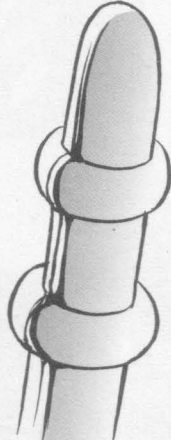
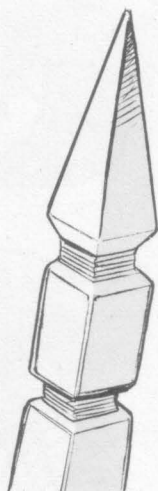
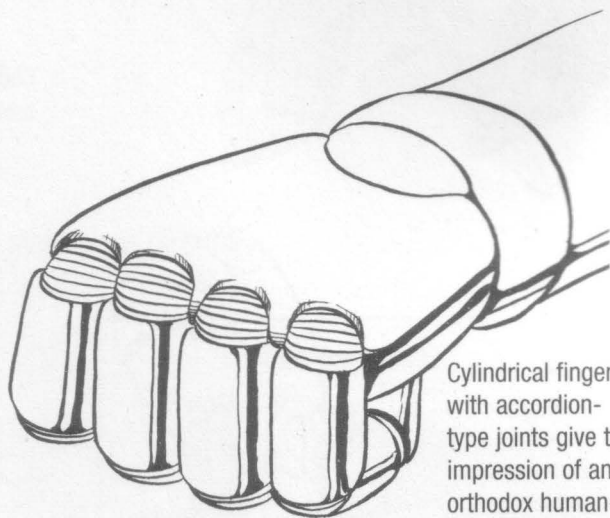
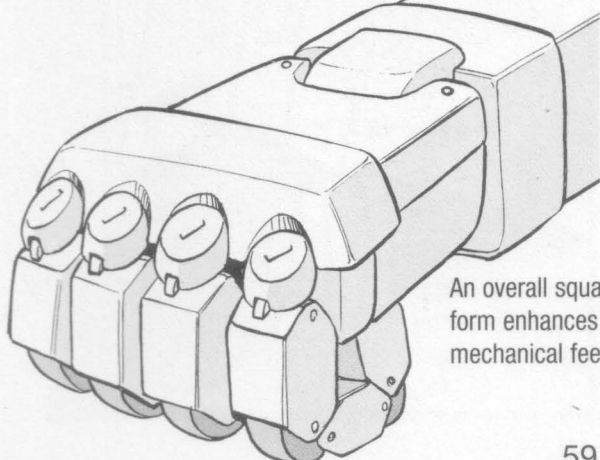
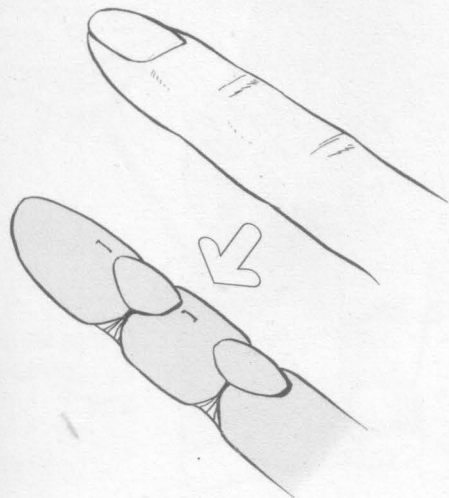
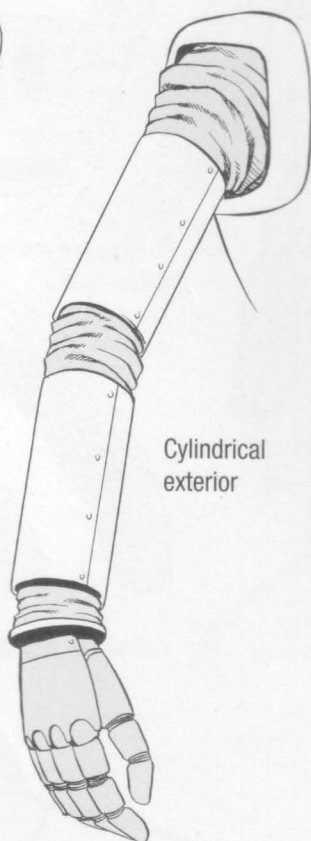
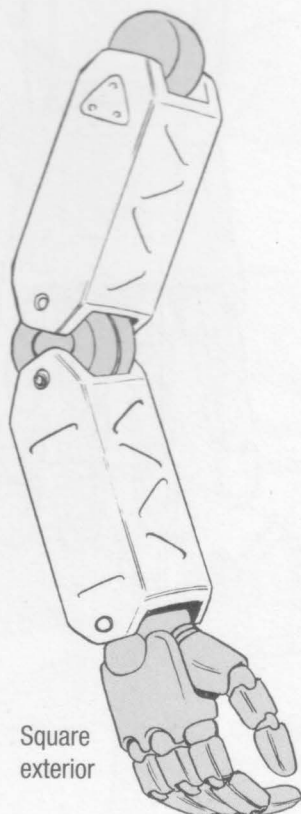
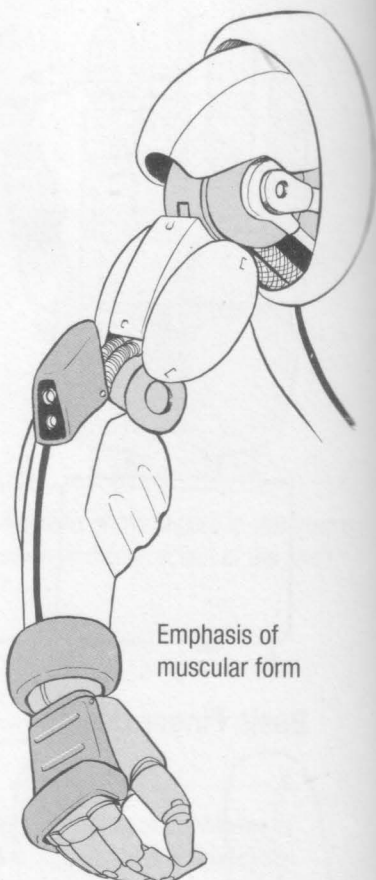
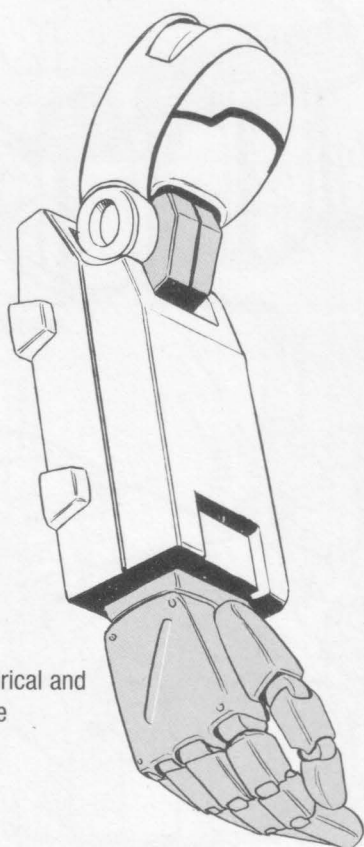
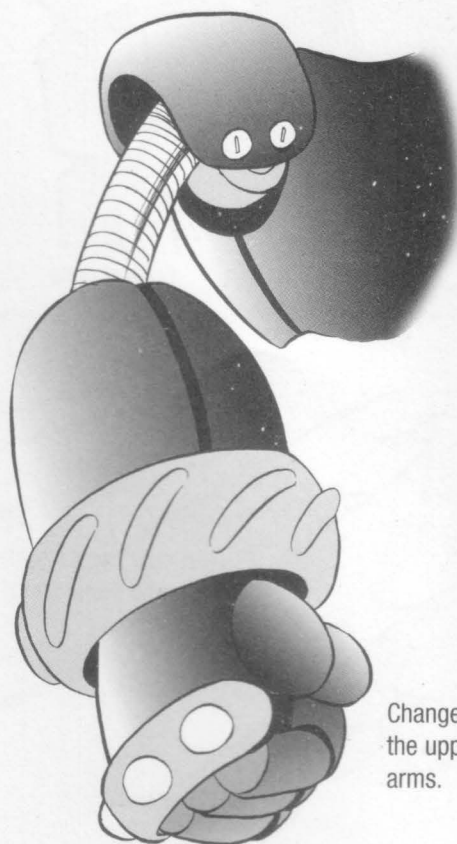
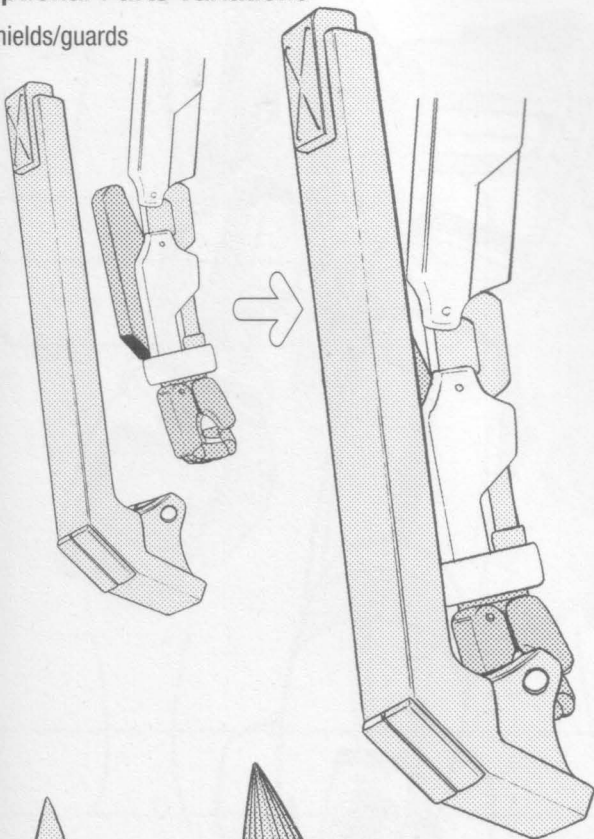
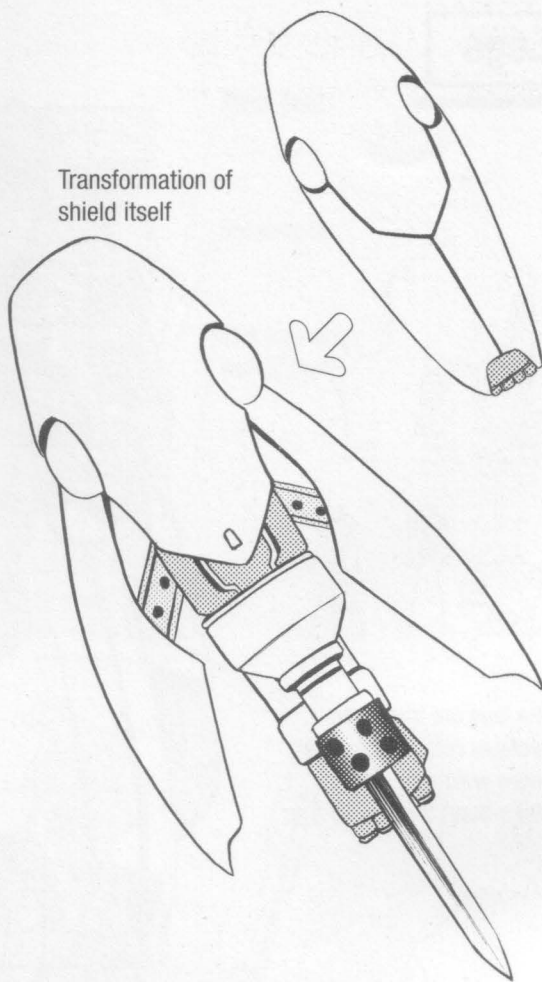
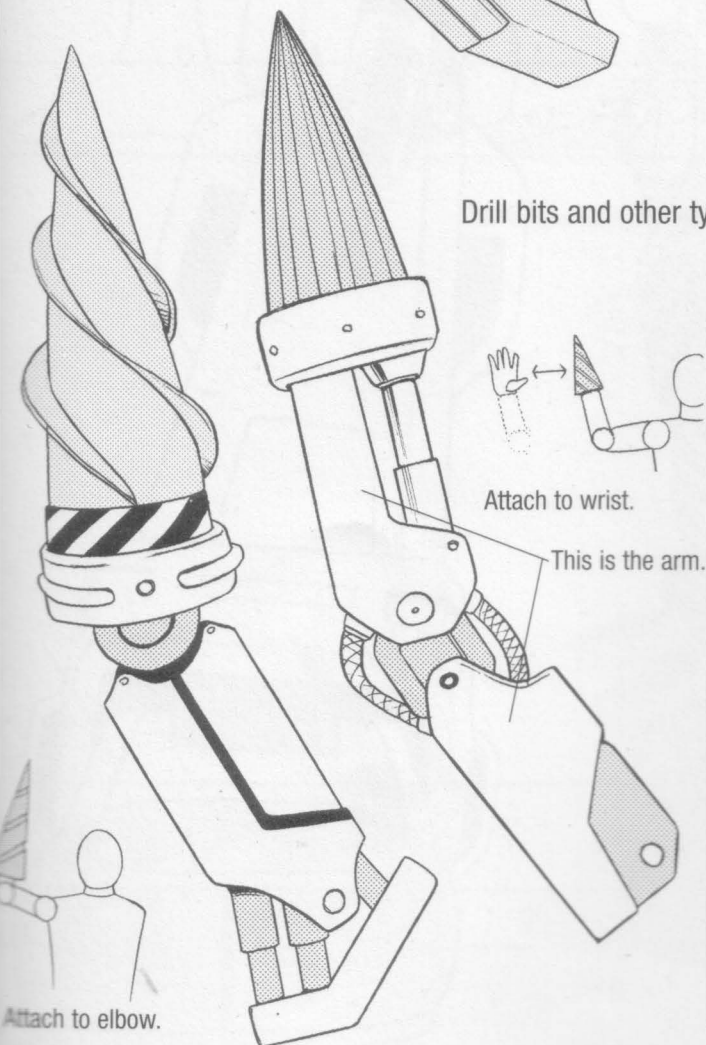
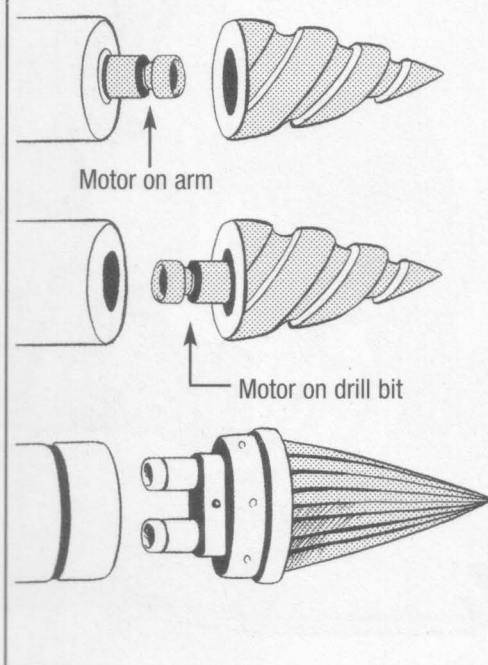
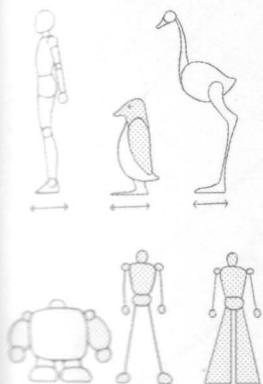
Stomach

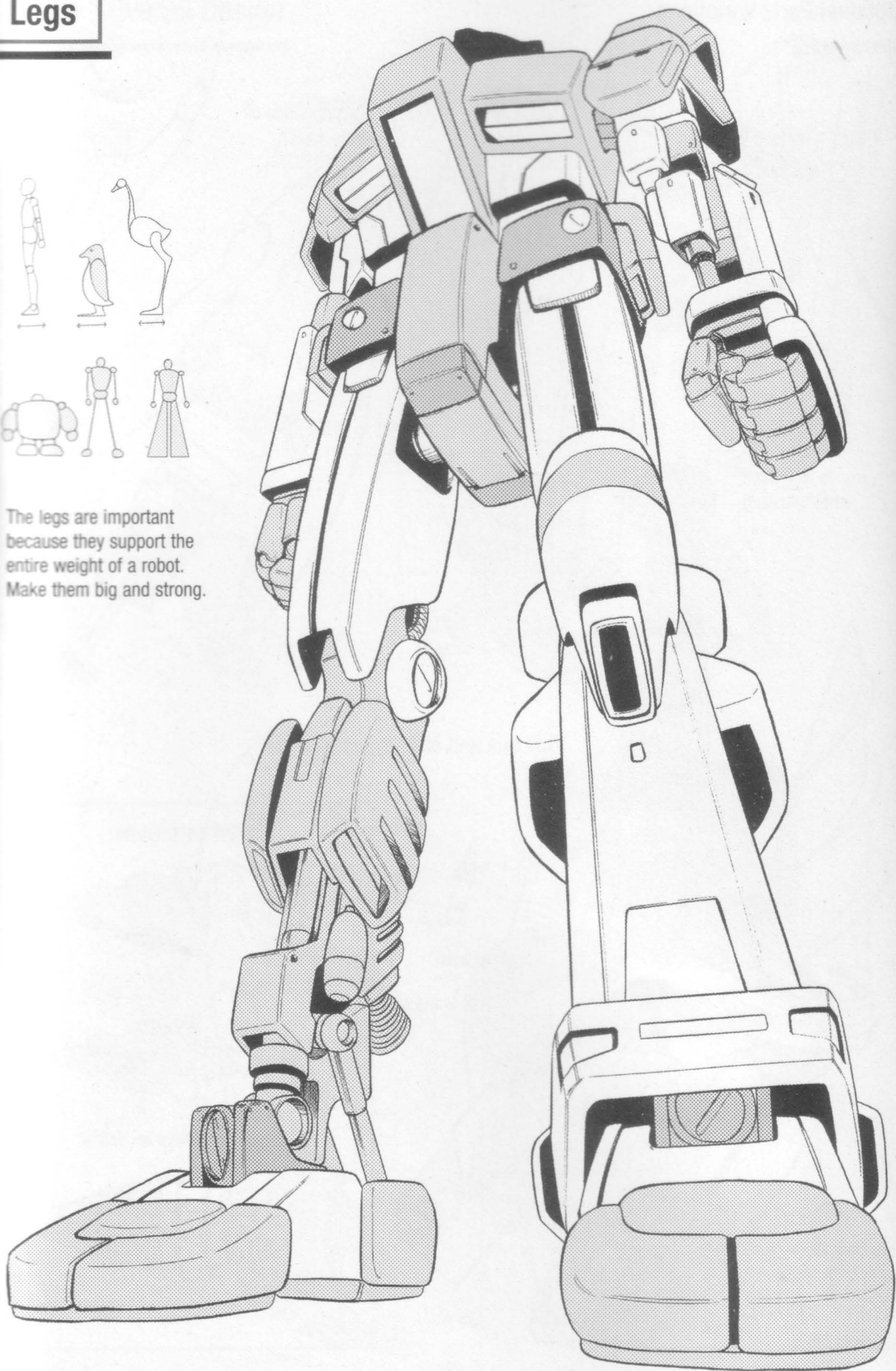
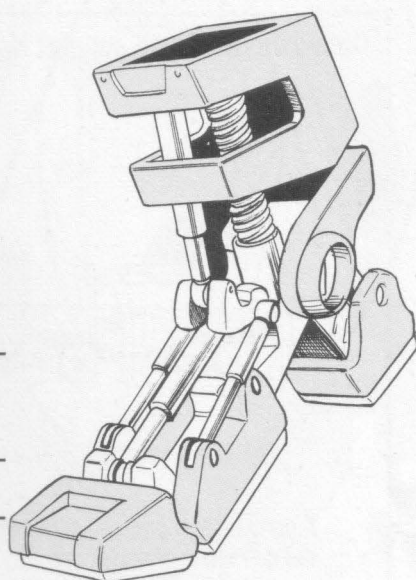
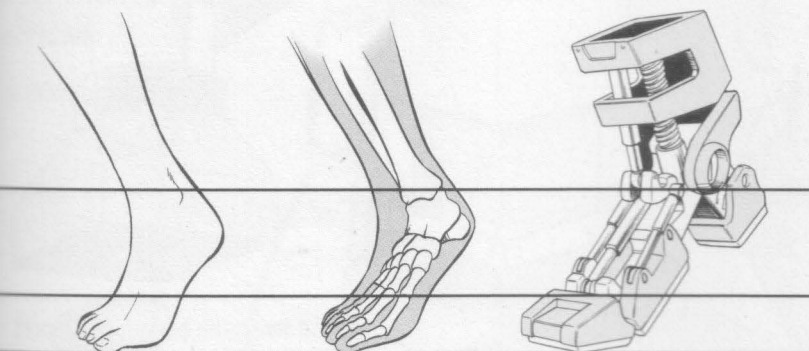
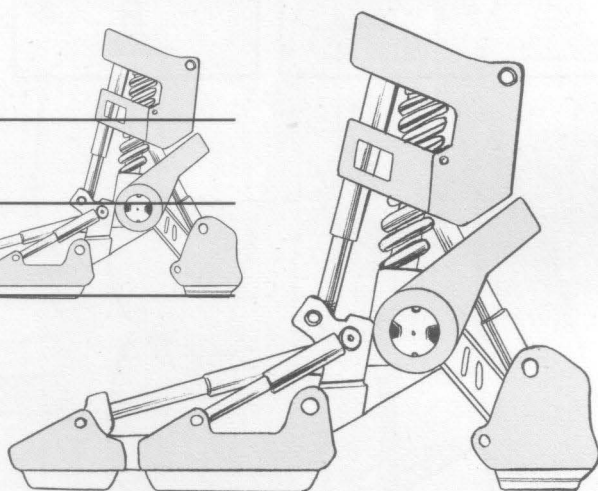
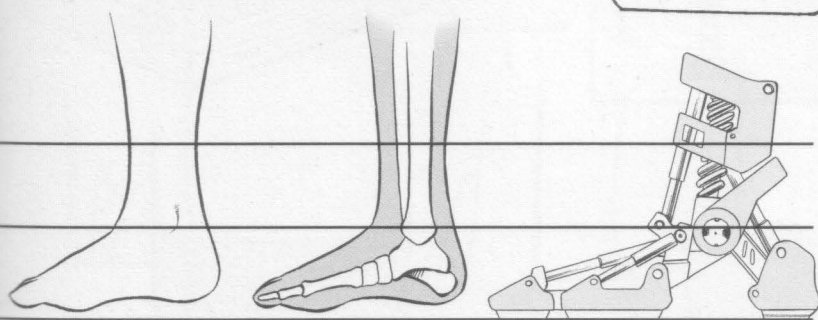
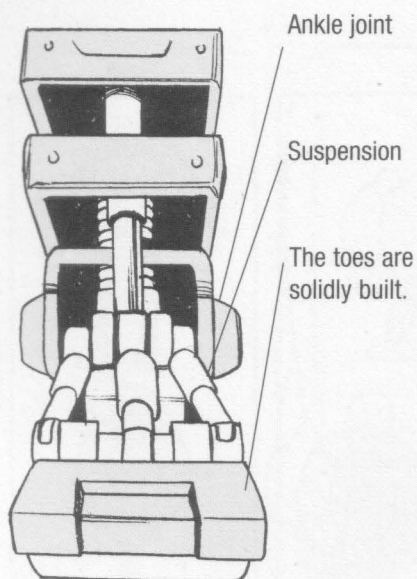
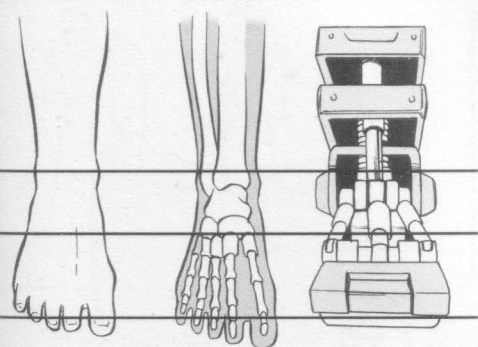
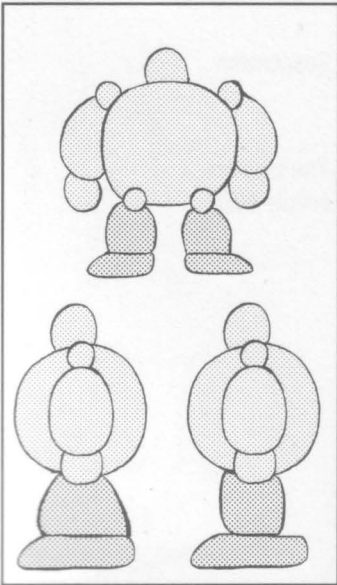
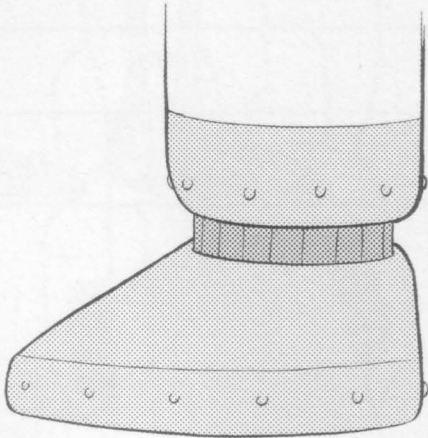
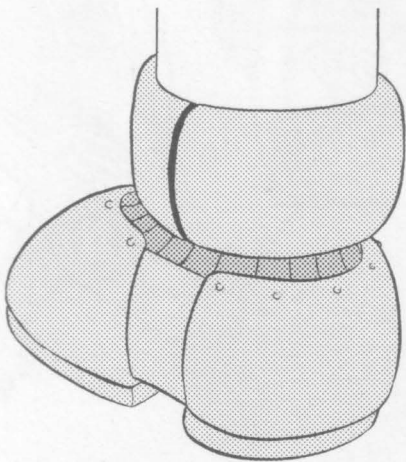
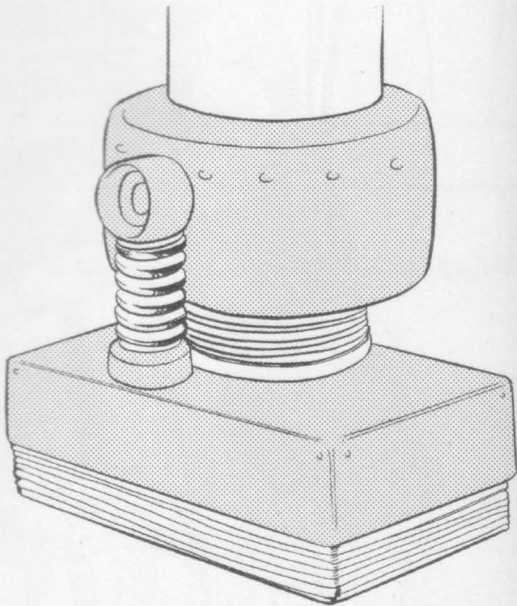
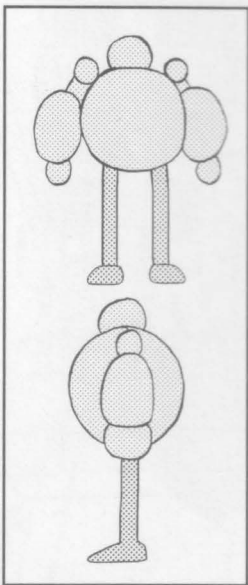
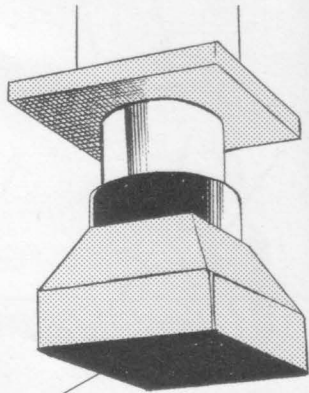
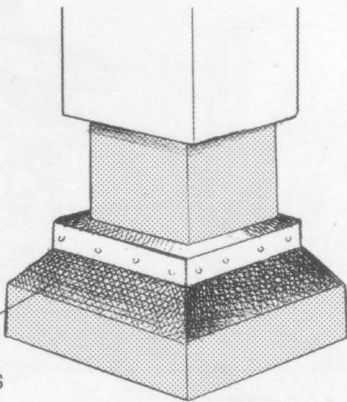
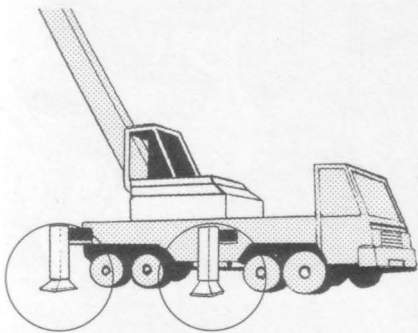
Hips

You are free to choose the number of joints, shape, thickness and form.

Front

Side

Back

Shoulder and Elbow Joints

Use the arms of cranes and excavators as a reference.

Arm Forms
They are based on prisms and cylinders.
The arm structure resembles that of a crane.
Prism type
Cylinder type
Arms with Exposed Elbow Joints
Joint covers
Accordion type
Metal cover
Armor type
Rubber cover

Shoulders

Shoulder Joint Covers

Shoulder Pads/Armor

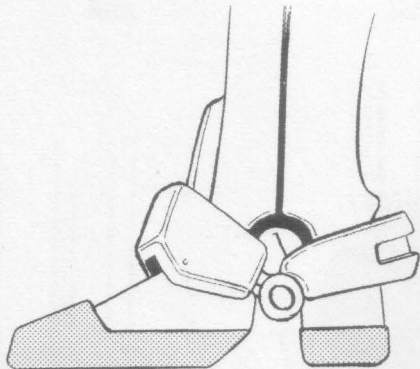
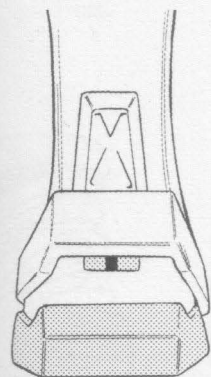
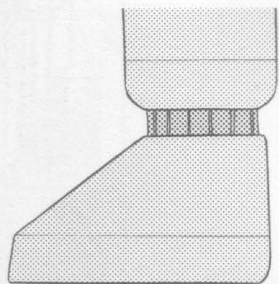
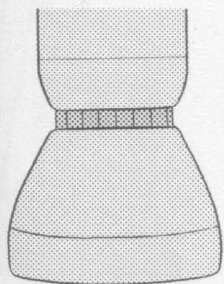
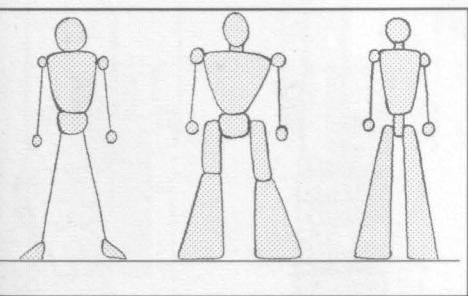
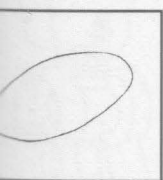
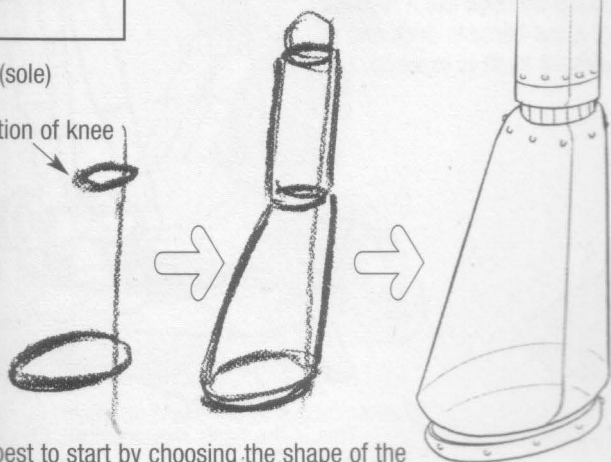
Hands

The direction of the sheers is changed by expansion and contraction of the shaft.
Opening and closing of the blades is controlled by upward and downward movement of pistons.
Cranes and claws
Opens when wire is pulled and closes when wire is let out.
Opens and closes with wire alone.

Fingers are sometimes detachable.
Cylindrical and square types
Basic Finger Design
Square base
Cylindrical base with enlarged joints
Conical cone type
Cylindrical fingers with accordion-type joints give the impression of an orthodox human-type robot.
An overall square form enhances the mechanical feel.

Overall Design

Optional Parts Variations

Legs

The legs are important because they support the entire weight of a robot. Make them big and strong.

Feet

Short, Fat Legs Stocky legs create a sense of stability.

A combination of mesh and matting creates the dull shine of metal.

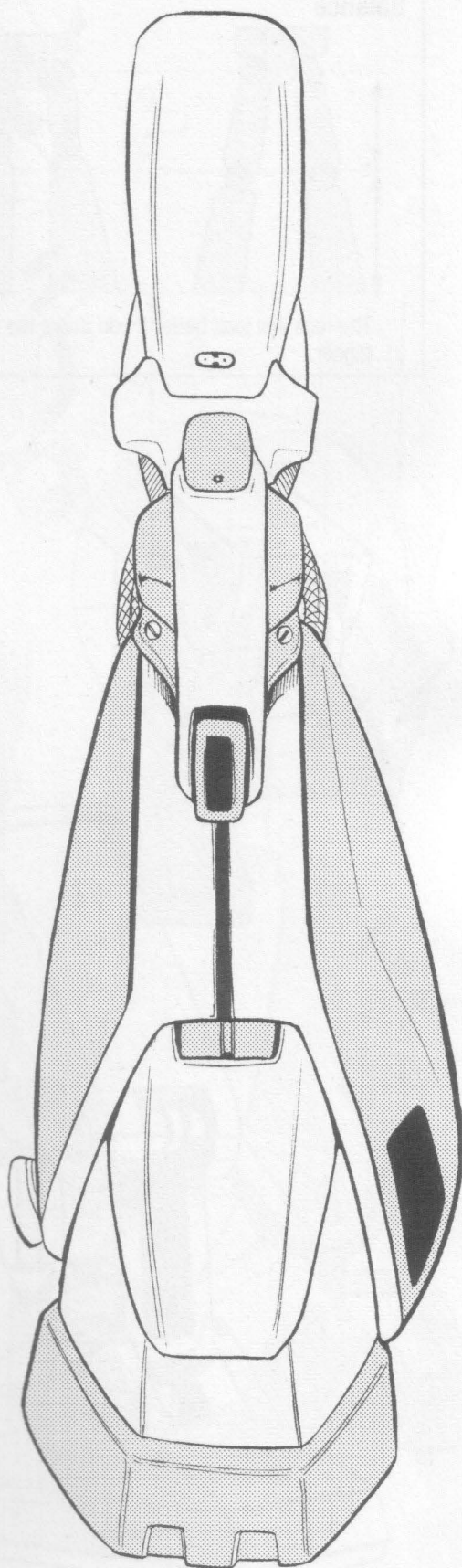
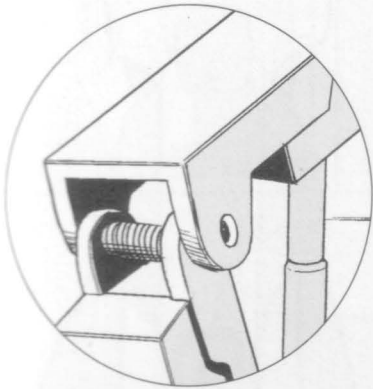
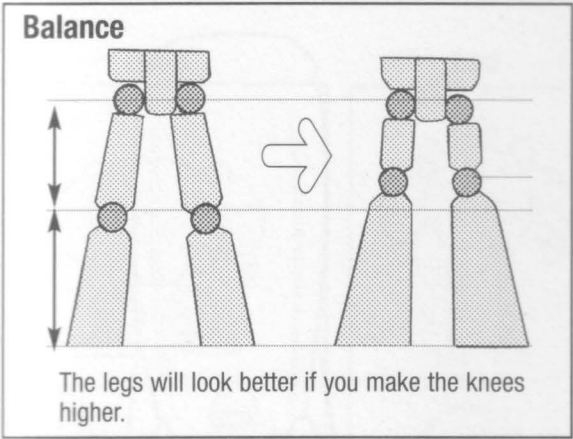
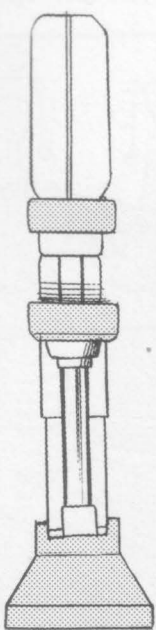
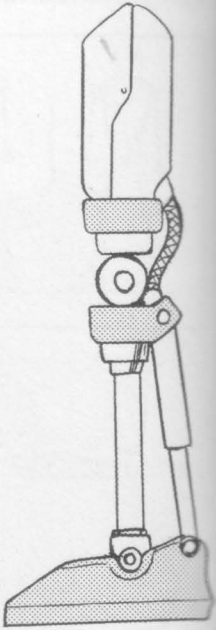
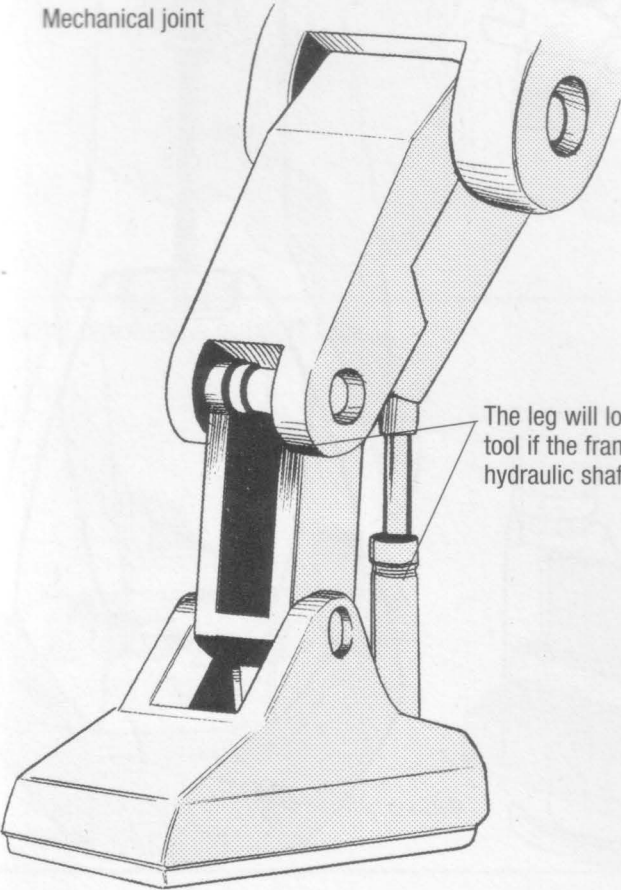
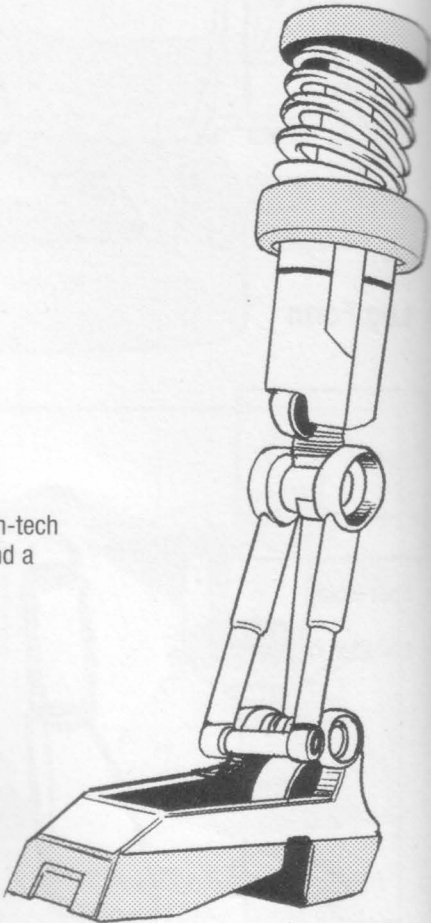
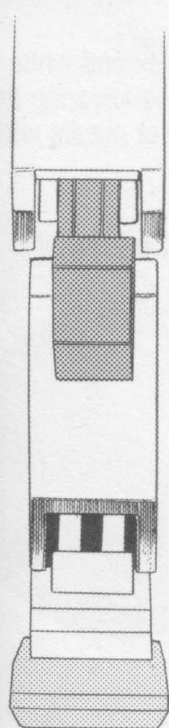
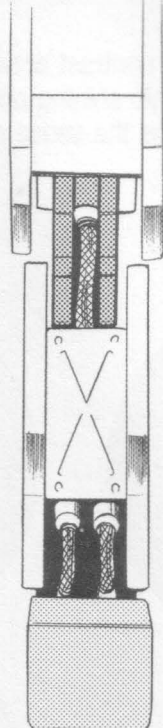
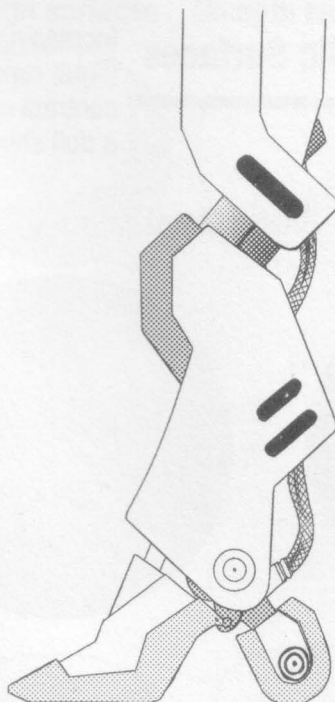
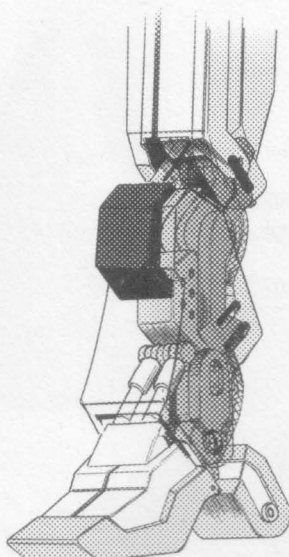
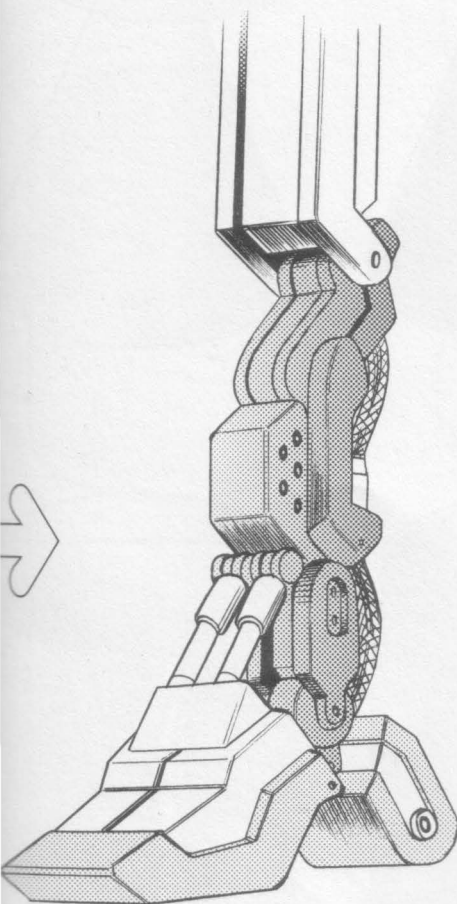
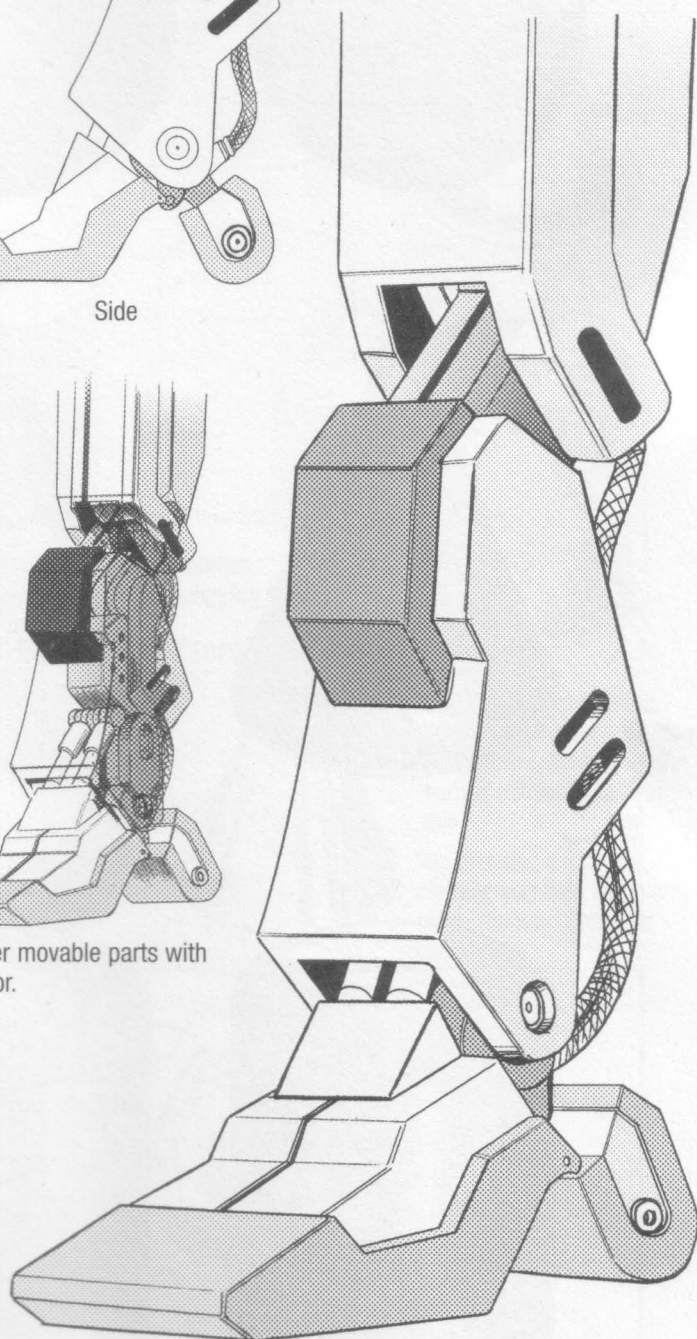
Drawing the bottom of support legs solid black makes them look heavy and hard.

Long, Slender Legs

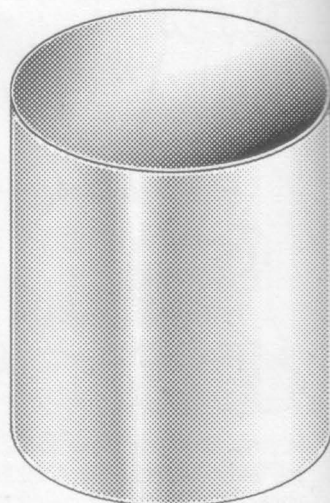
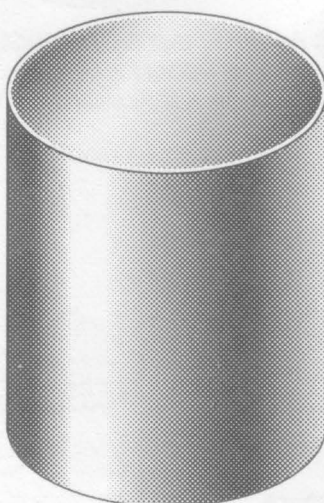
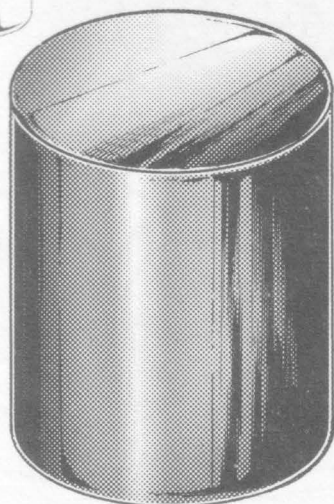
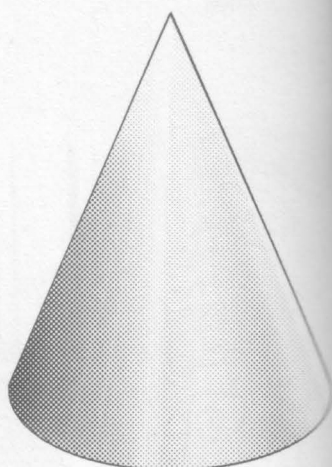
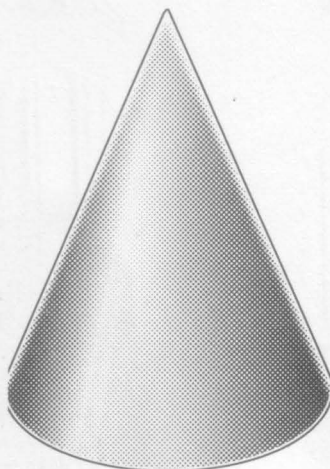
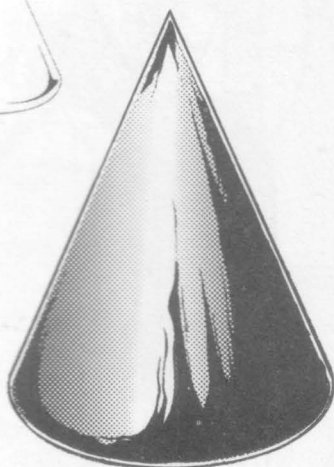
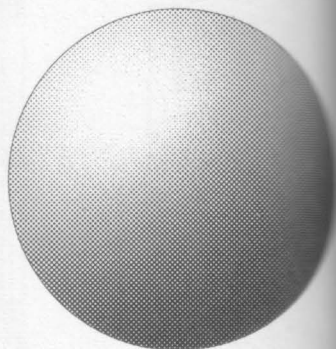
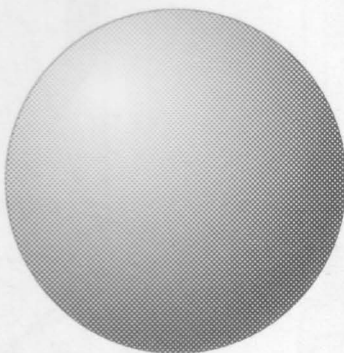
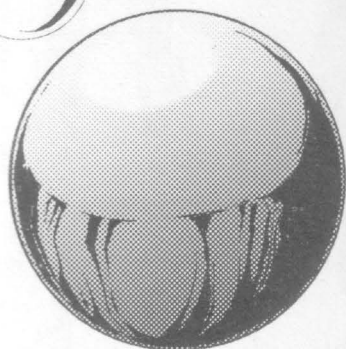
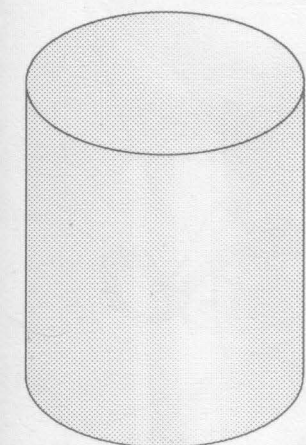
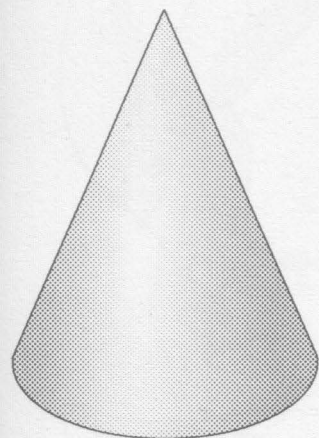
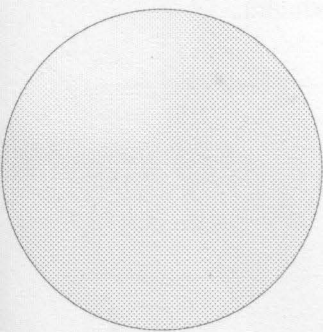
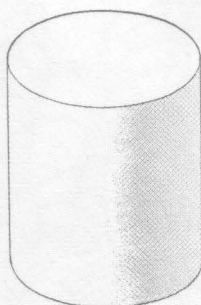
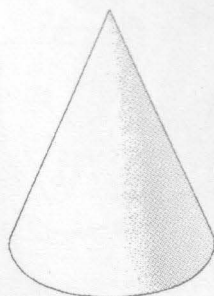
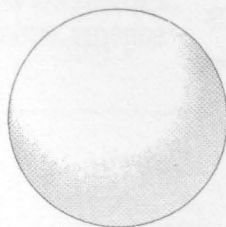
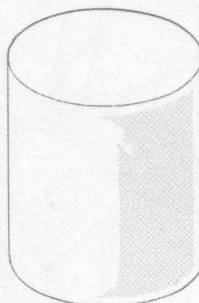
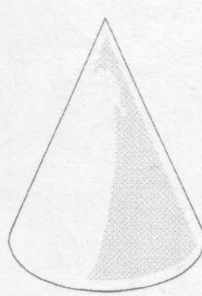
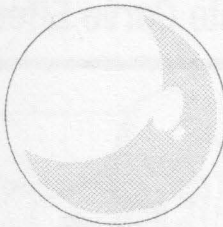
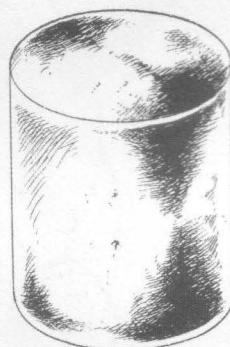
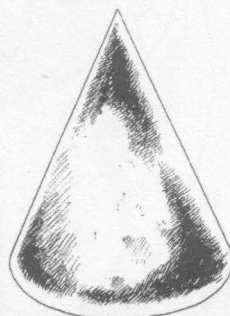
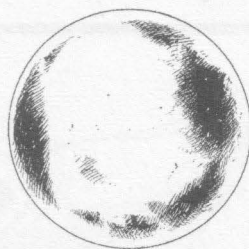
Draw the legs and feet large so that they are shaped like those in the illustrations below.

Leg Form

It is best to start by choosing the shape of the foot (sole) and drawing the entire leg by connecting the foot to the knee and hip joint.

Leg Design

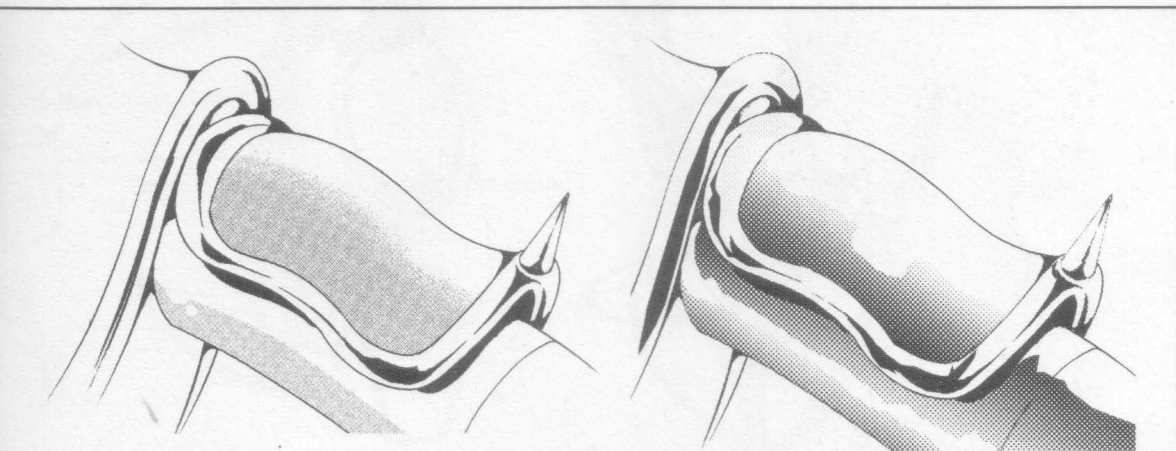
Balance

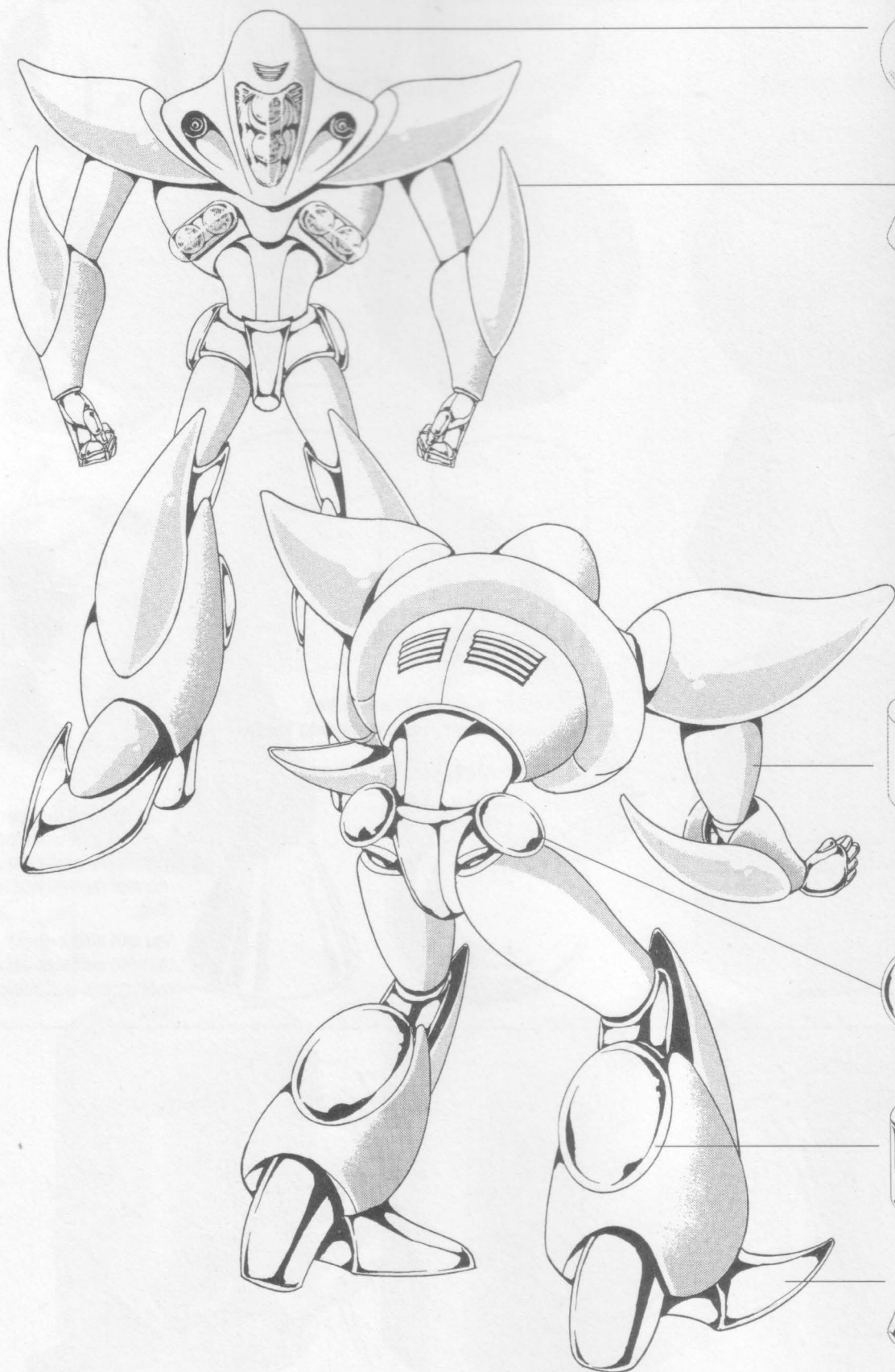
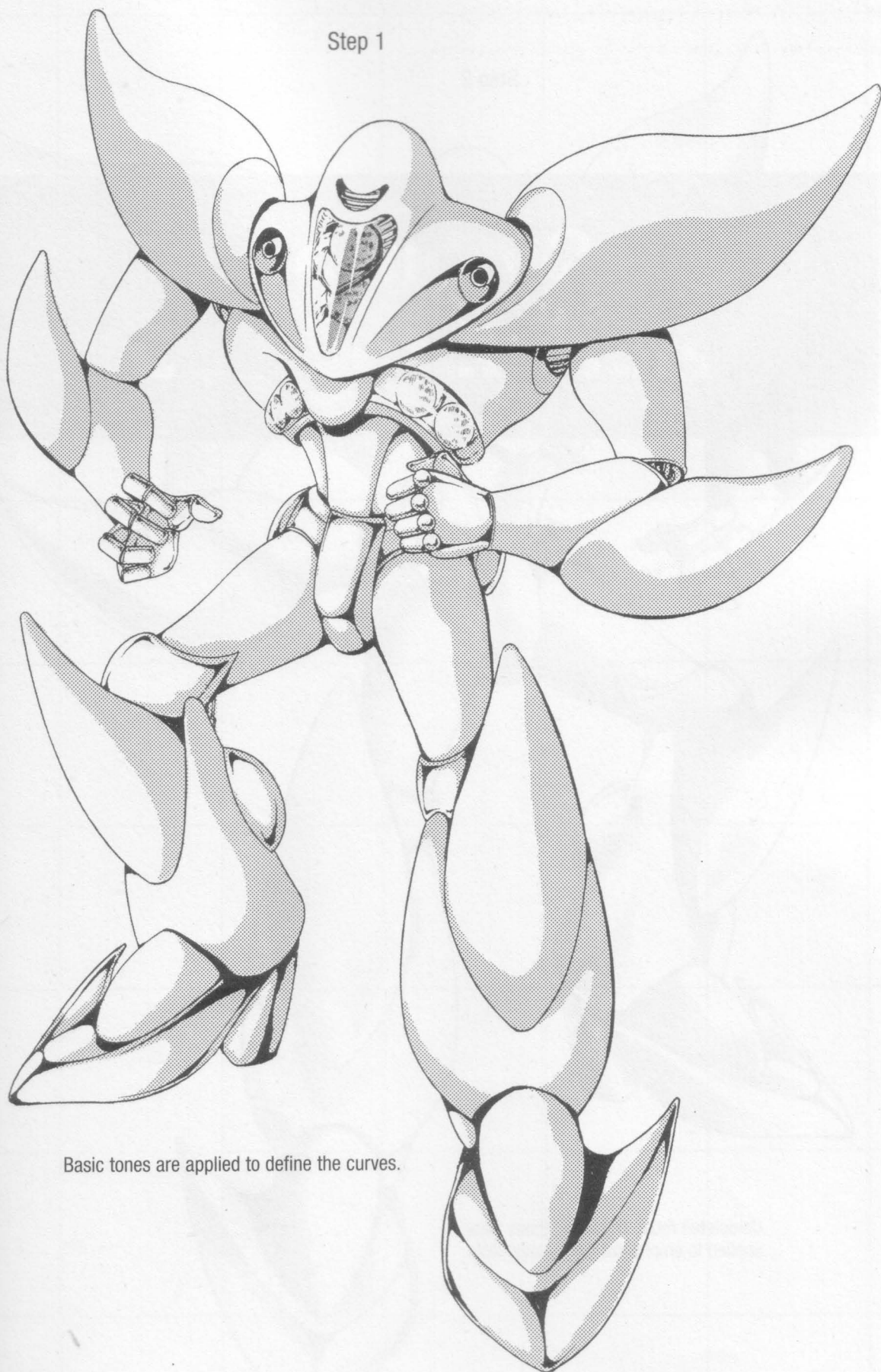
The legs will look better if you make the knees higher.

Skeleton frame

Mechanical joint

The leg will look like a high-tech tool if the frame is thick and a hydraulic shaft is exposed.

This is the basic leg structure. Choose the girth and the number and positions of shafts according to your tastes and how the robot will be used.

Internal structure: Make minor adjustments to the angle and position of shafts. Add supplemental parts to create the effect of a mechanical interior.

Representation of Metallic Surfaces

Increasing the contrast between black and white (light) represents shining metal, while lowering the contrast creates the sense of metal or plastic with a dull shine.

The feel of a solid is sometimes expressed by shaving or clipping tones.

Use spotting to express grime and a worn look. You can apply gradation and/or normal mesh tones over this.

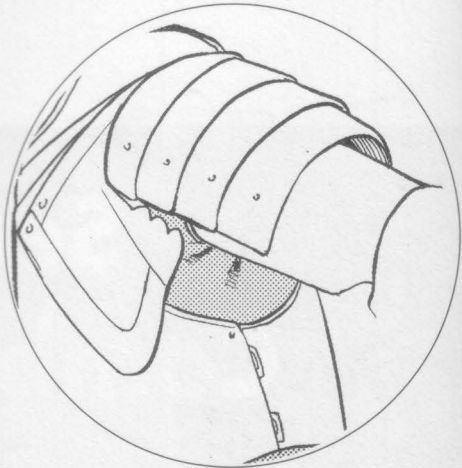
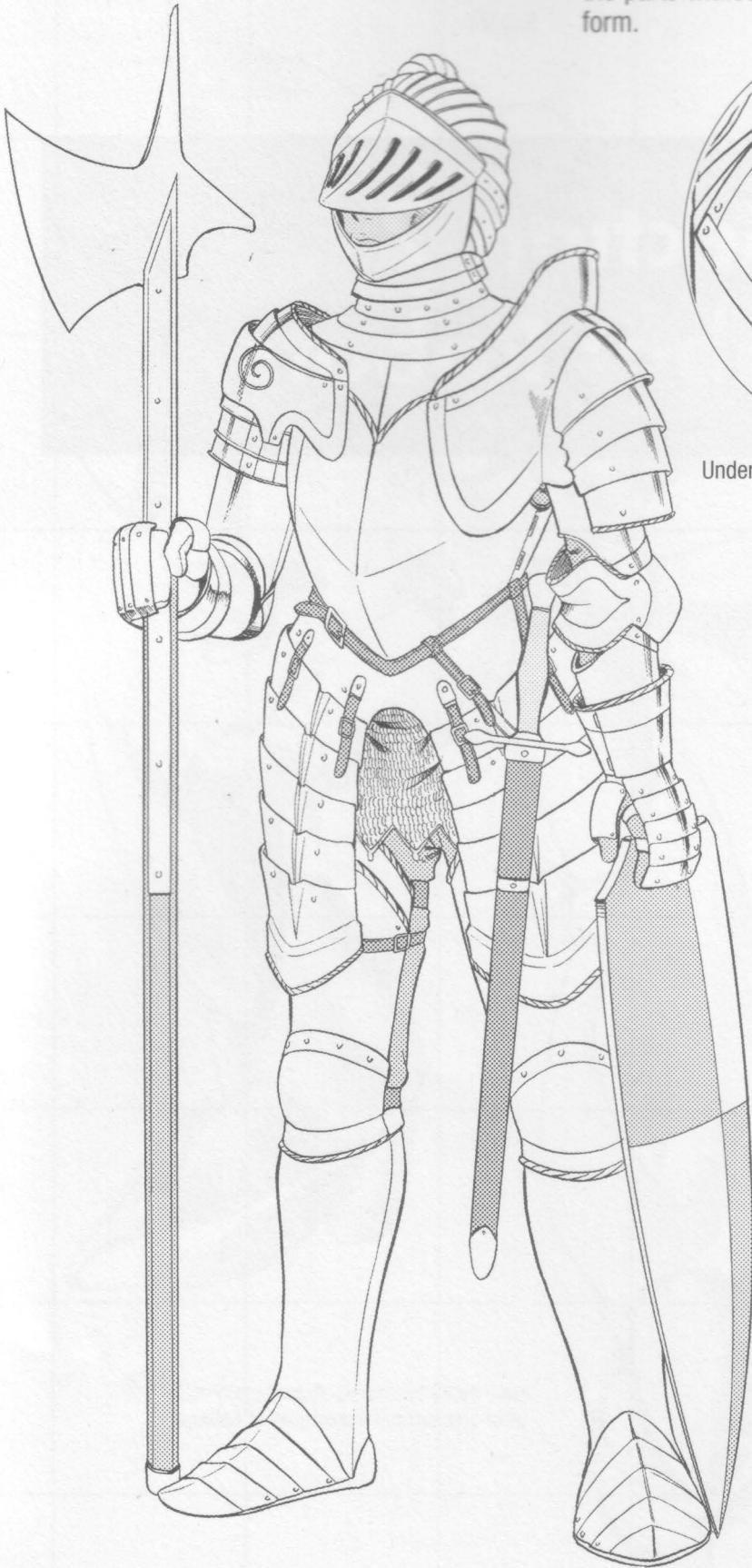
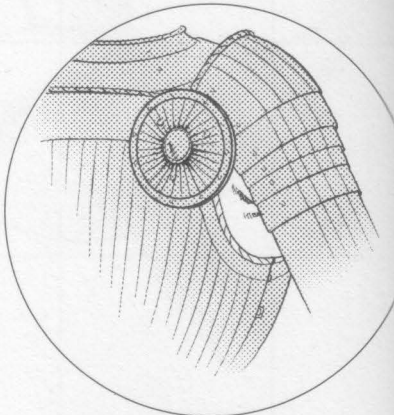
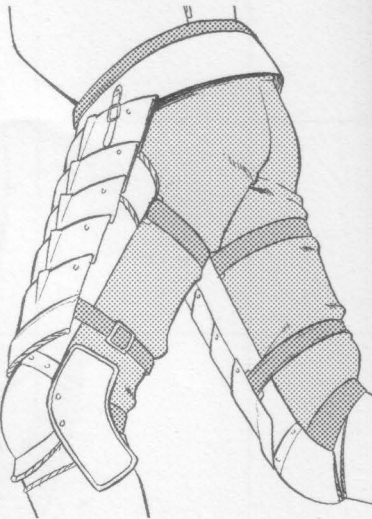
You can also express metallic surfaces using only solid colors and straight lines.

Using Tones to Create Curve Effects

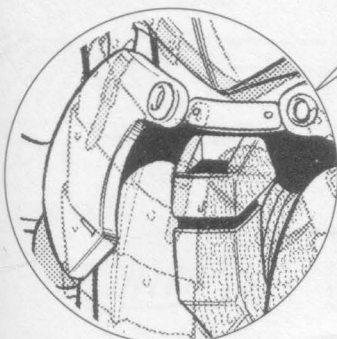
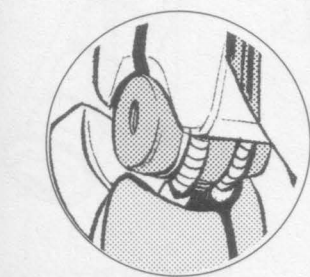
Express curve lines by using a combination of spheres, cones and cylinders.

Step 1

Basic tones are applied to define the curves.

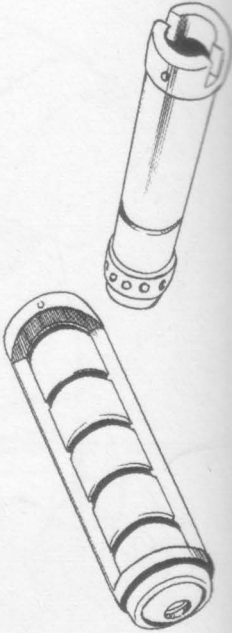
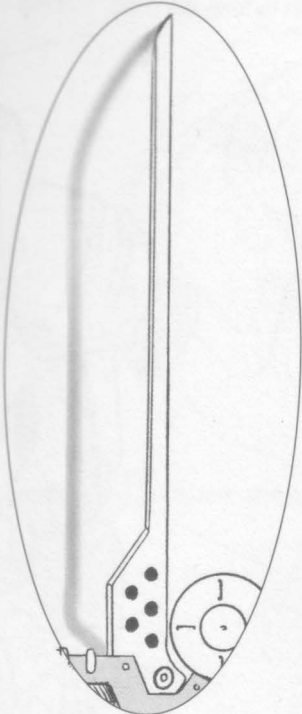
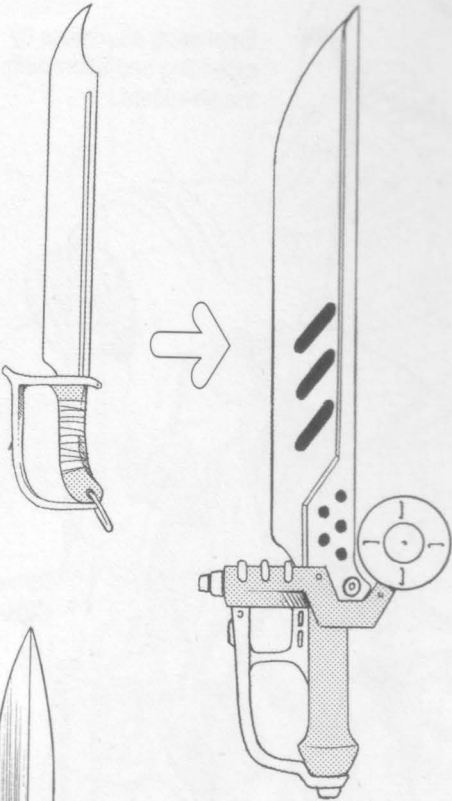
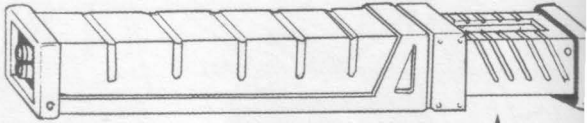
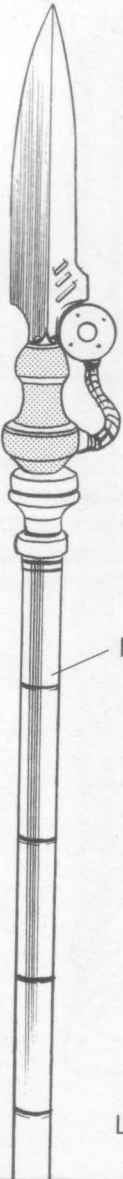
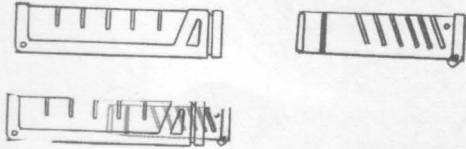
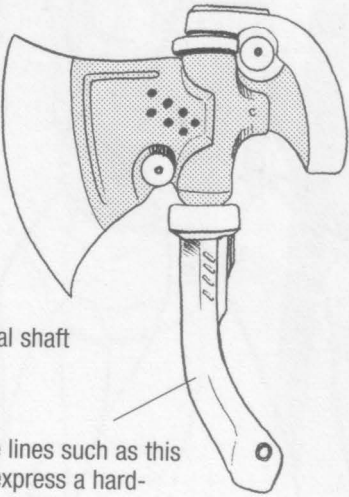
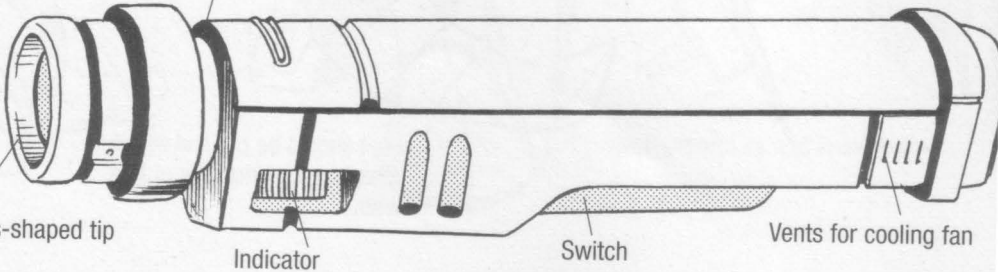
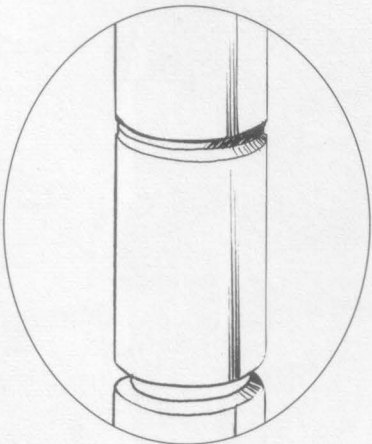
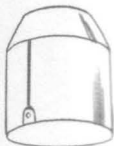
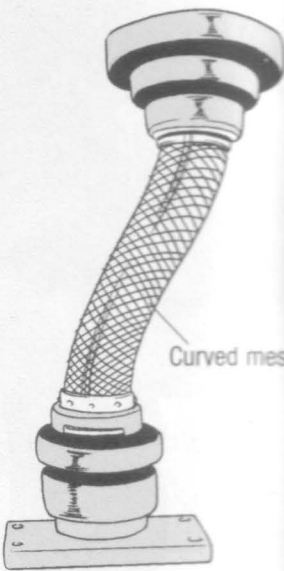
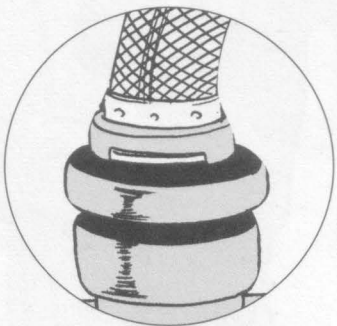
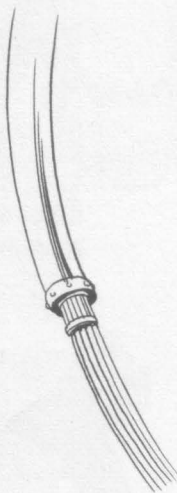
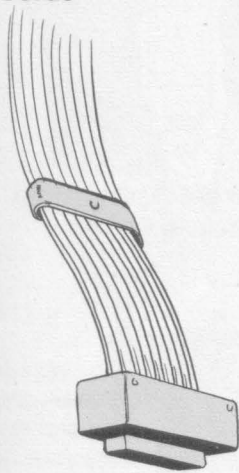
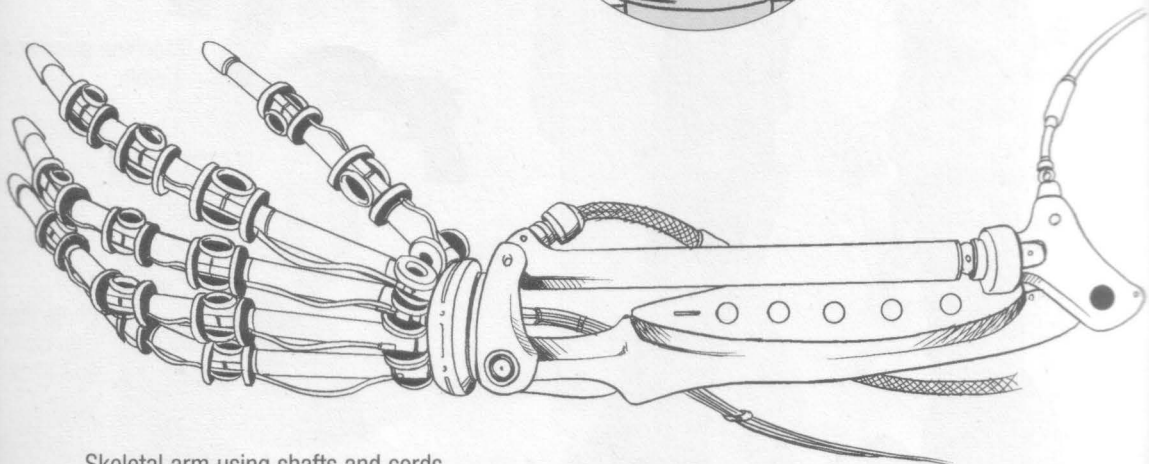
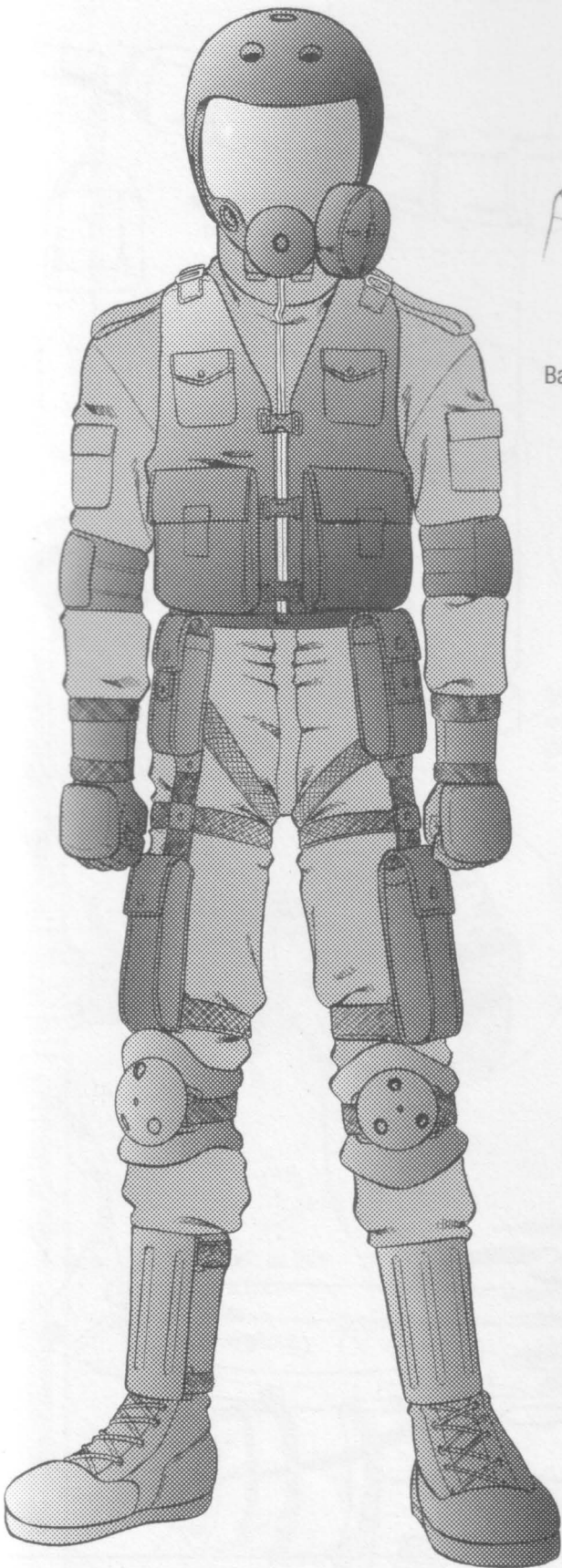
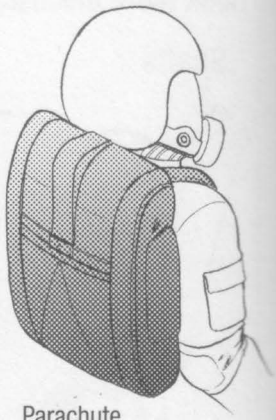
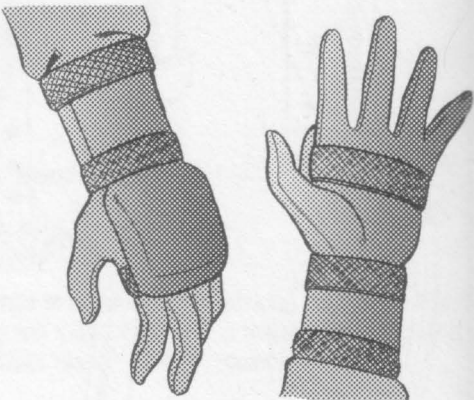
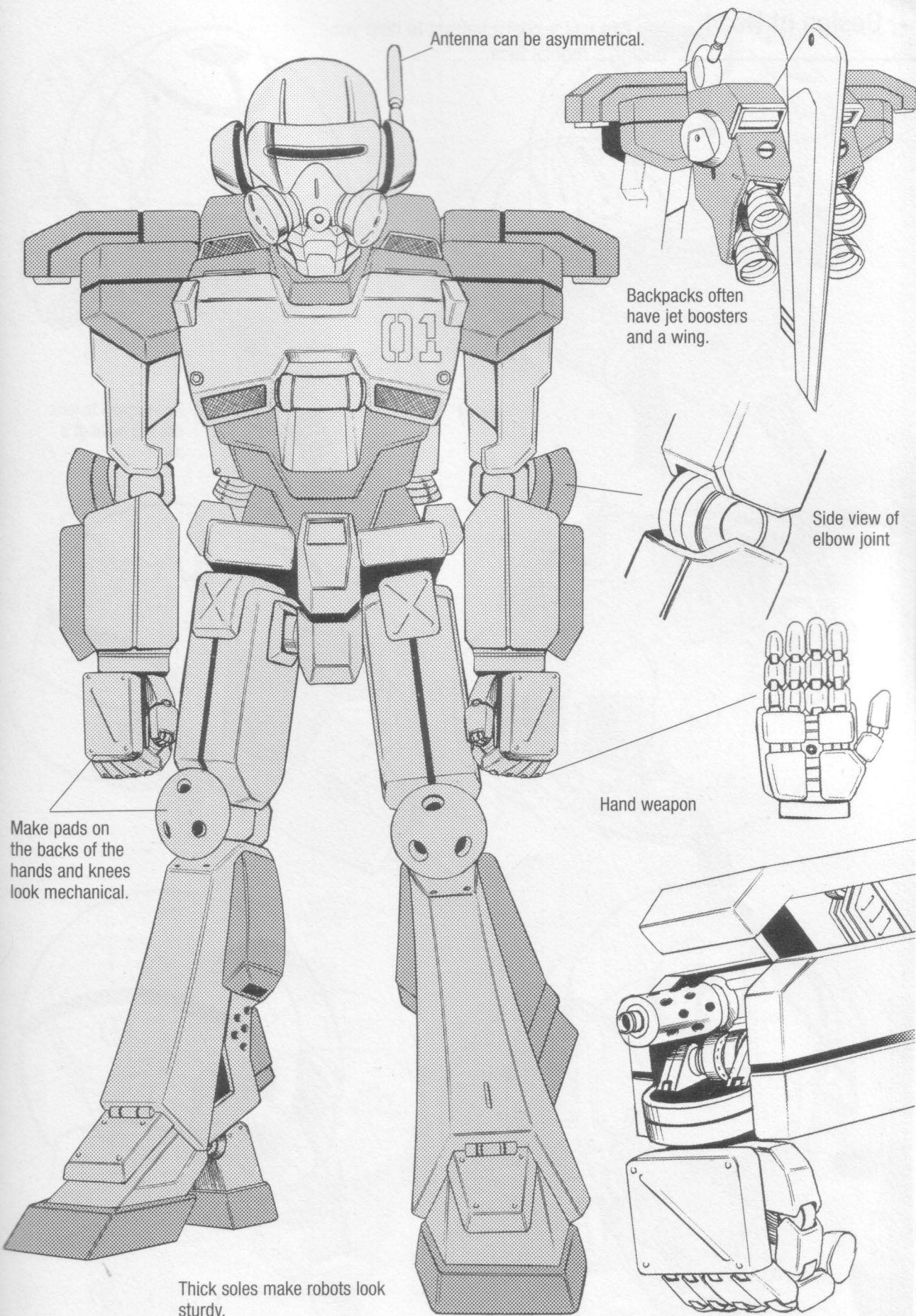
Completed robot. Deformed tones were applied to emphasize the metallic look.

Section 2
Combat Robots

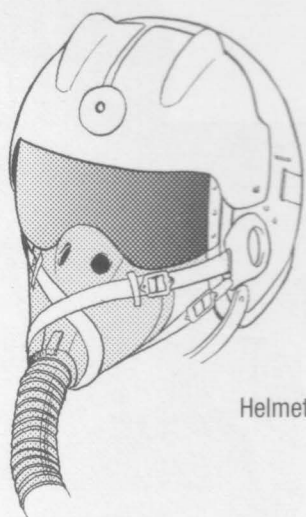
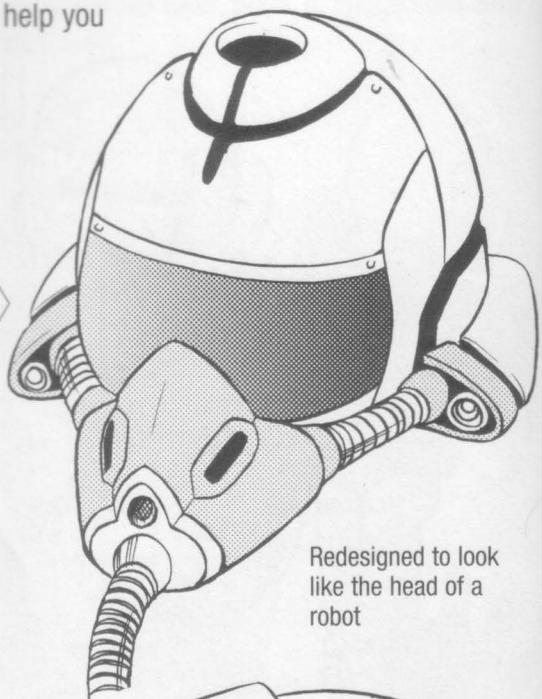
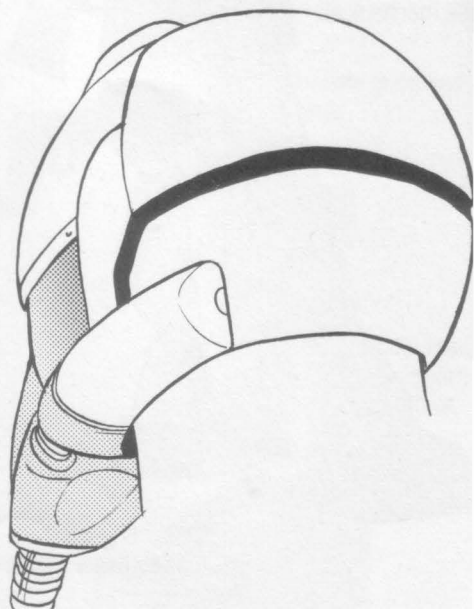
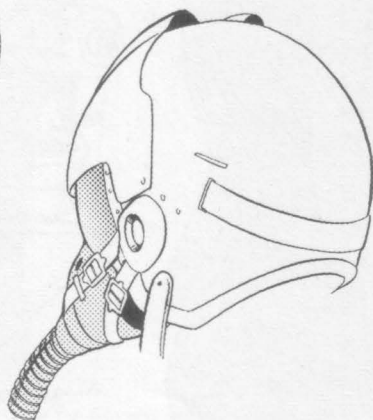
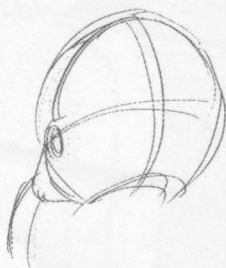
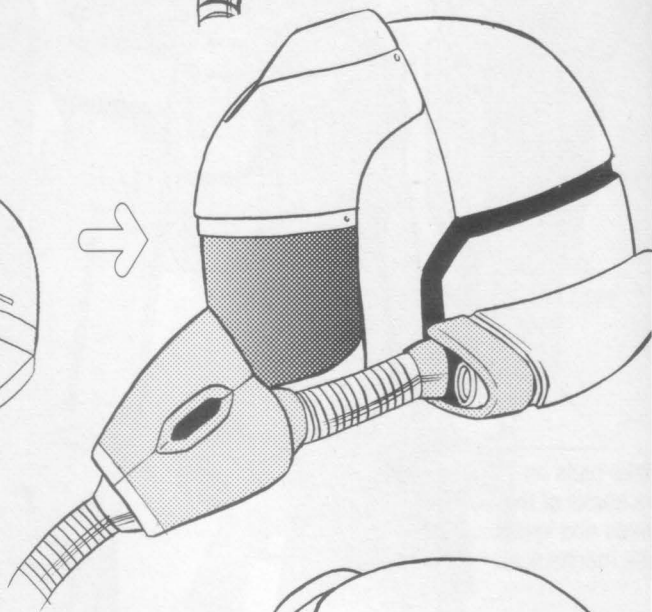
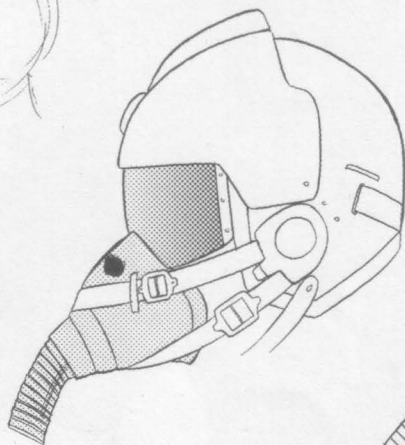
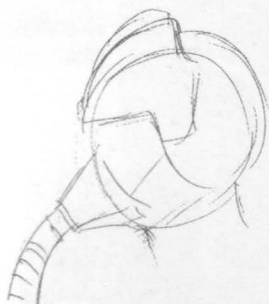
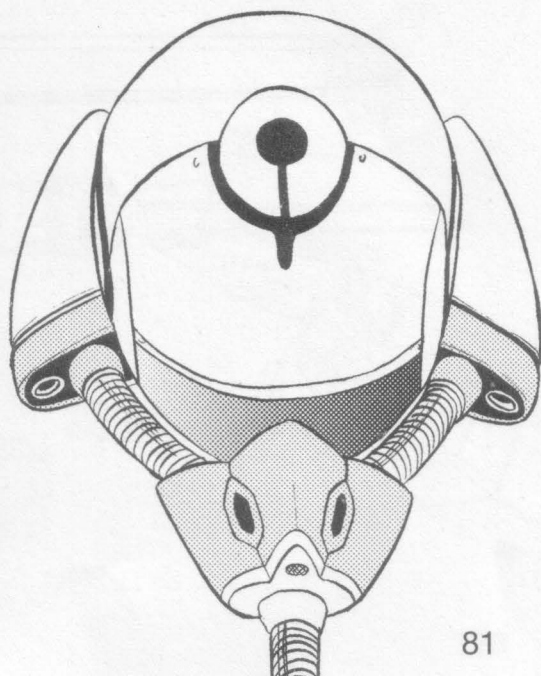
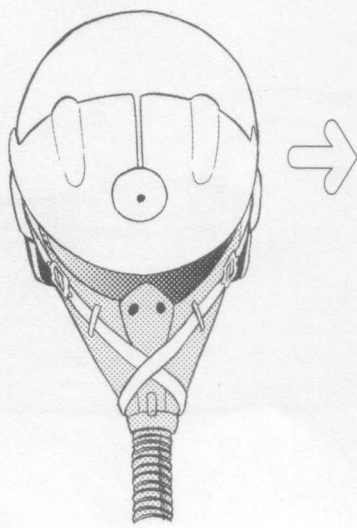
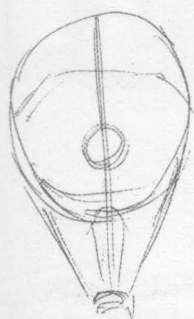
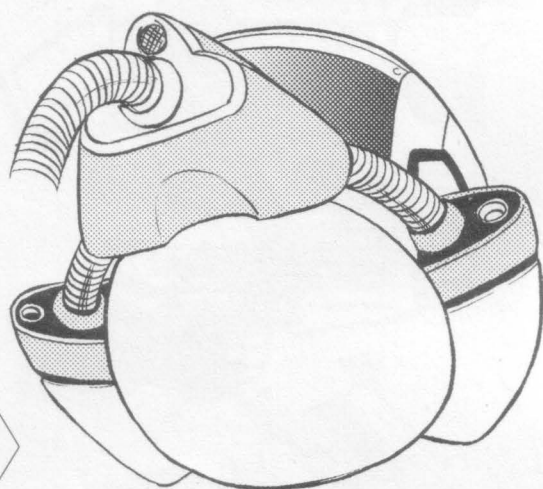
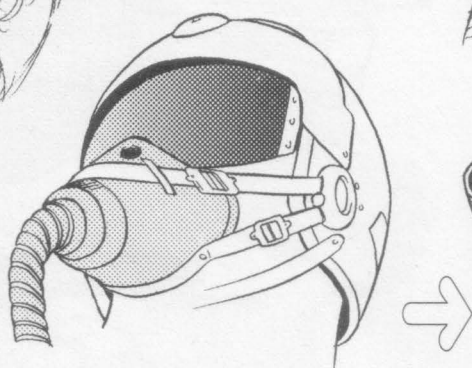
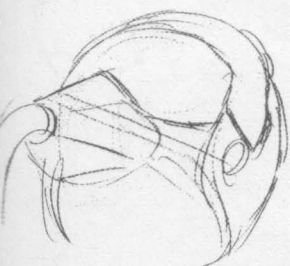
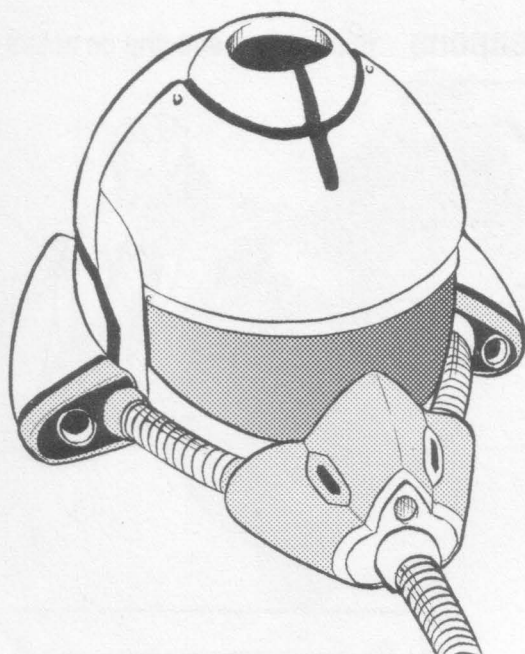
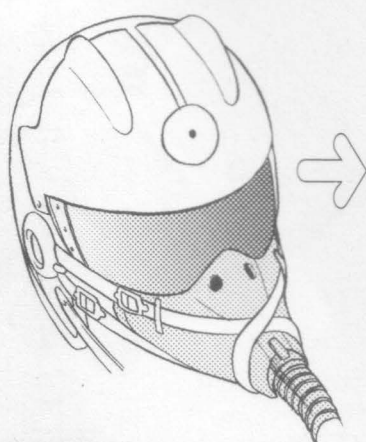
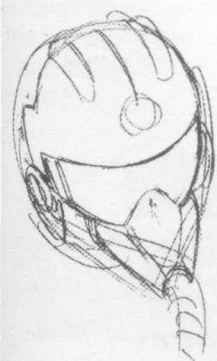
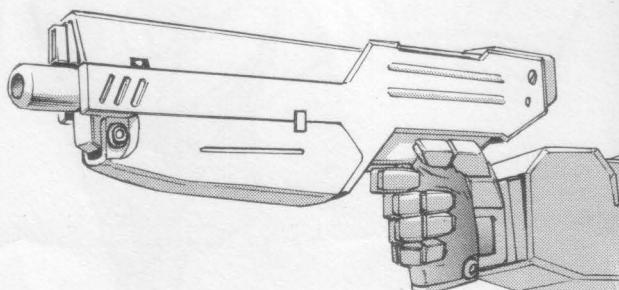
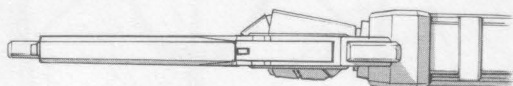
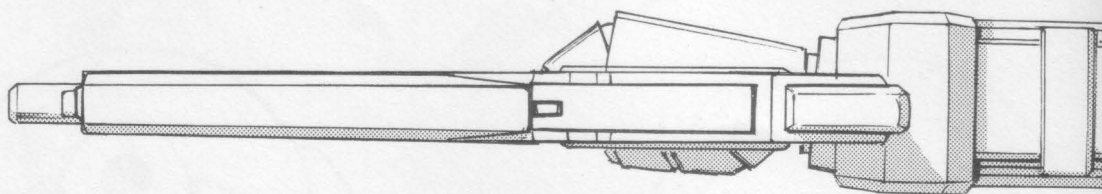
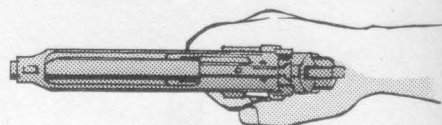
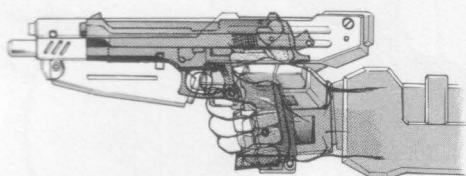
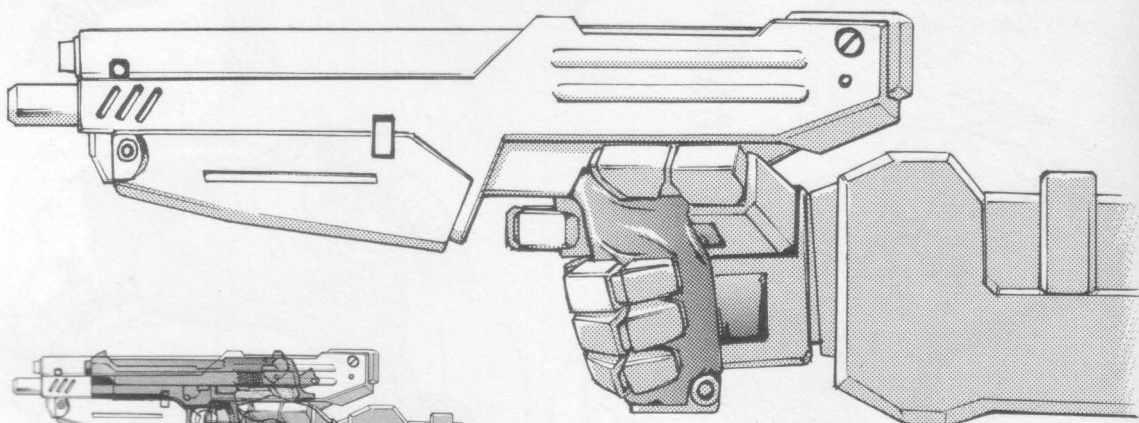
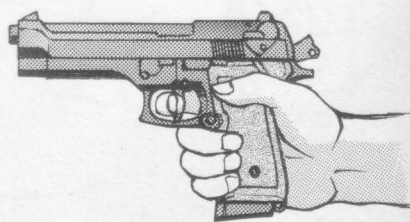
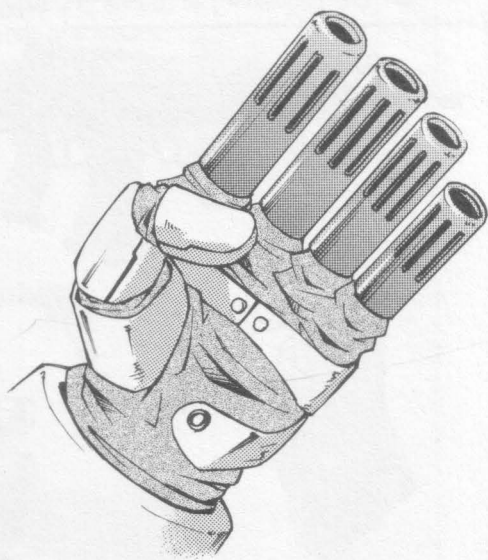
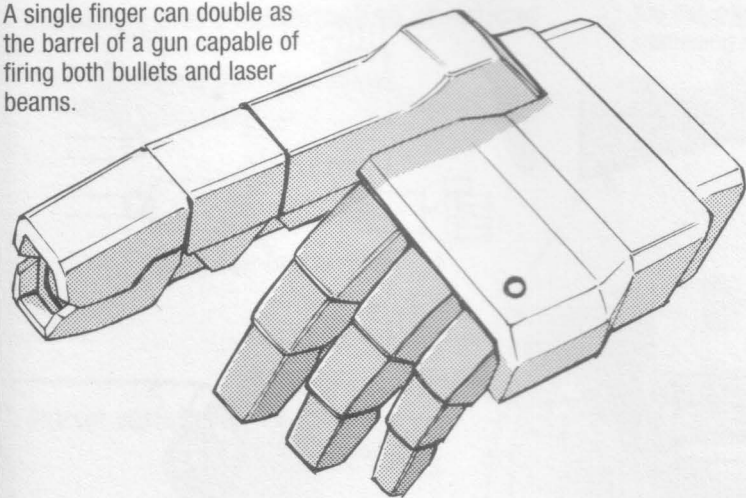
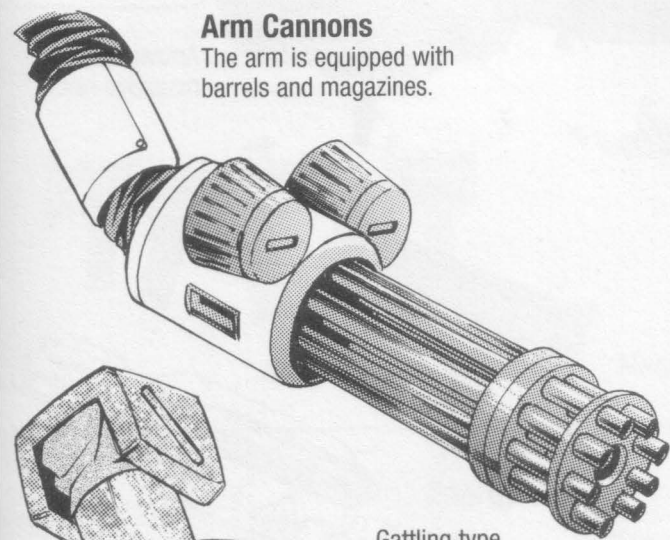
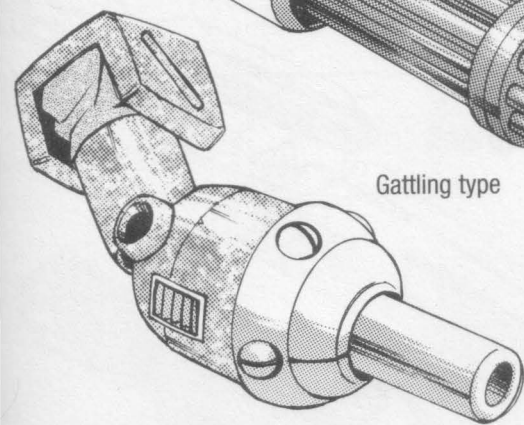
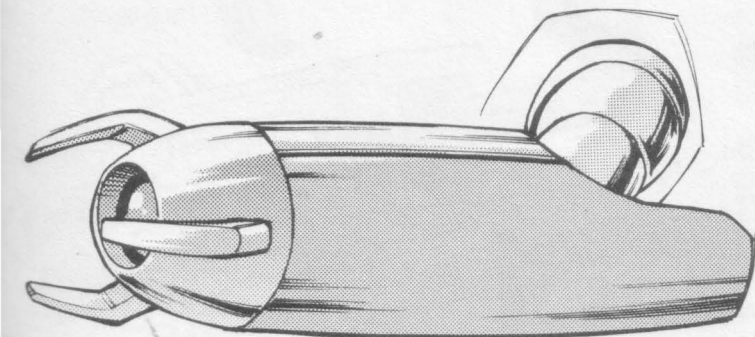
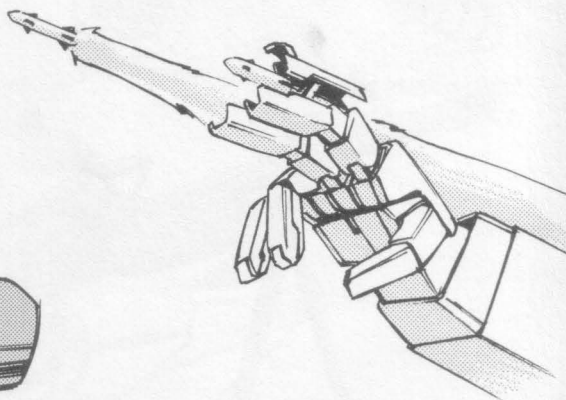
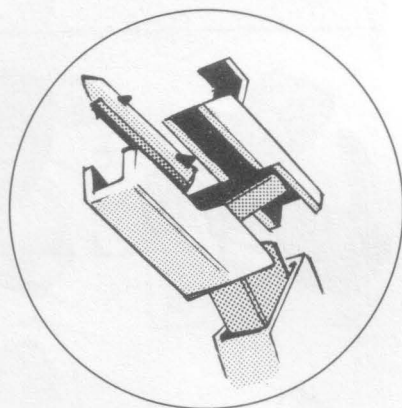
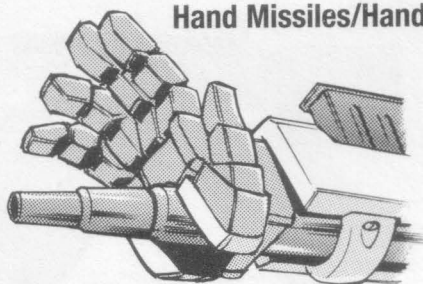
Design Based on Medieval Armor

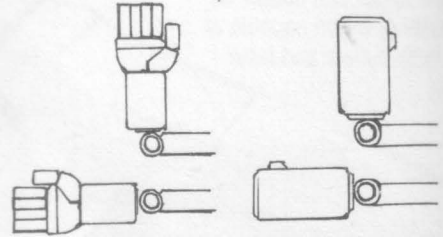
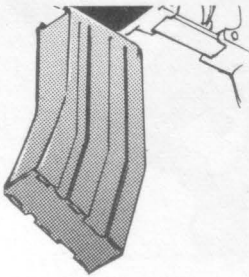
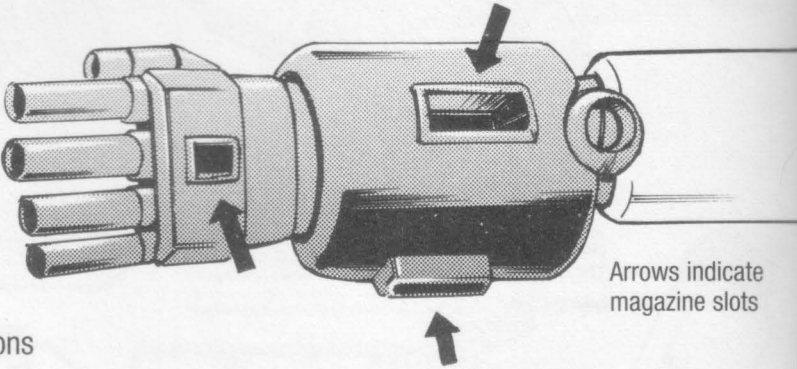
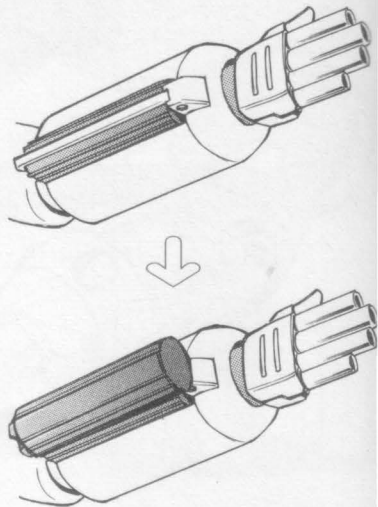
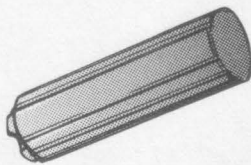
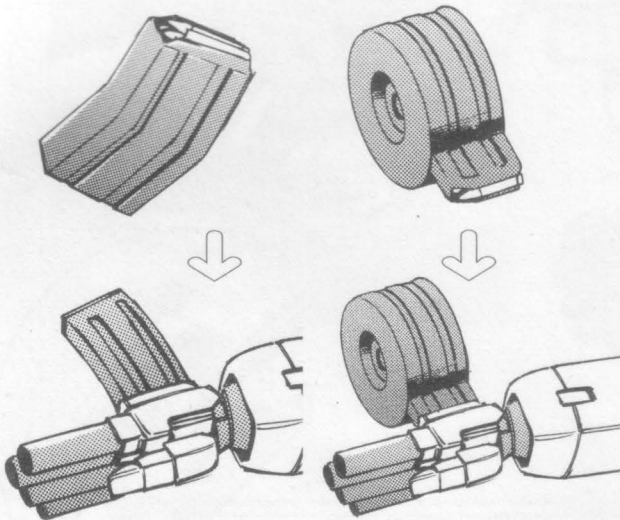
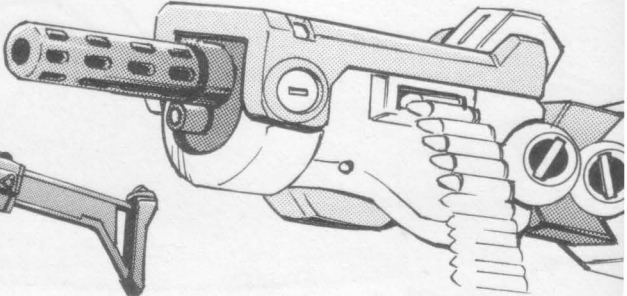
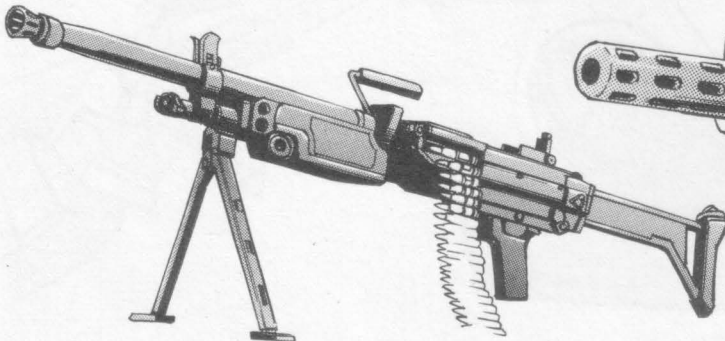
A classic suit of armor can be rendered into a modern-day mecha by simplifying and deforming the parts without significantly altering the overall form.

Underarm and seam of sleeveless undergarmen

Different version of shoulder pad and sleeveless undergarment

Thigh protectors and knee pads

Use the helmet lines to form the head.
Emphasize sturdiness by extending and thickening the shoulders.
Turn elbow pads into jets.
Make joints movable.
Leave the original lines in place.
Create three-dimensional effects (thickness and hardness) by adding lines such as these.
Combine belts into a single belt.
Feet should be big and stable to make up for simplicity of foot lines.

Arrangement of Swords, Axes and Spears for Use with Robots

Classic weapons should retain their original overall form but feature minor modifications to make them look futuristic.

Small tools used to make a robot look more mechanical
Shafts
Combination of stand-shaped parts
Plain type
Type with seams/grooves
Cords
Curved mesh
Skeletal arm using shafts and cords

Robots Based on Combat Uniforms

Antenna can be asymmetrical.
Backpacks often have jet boosters and a wing.
01
Side view of elbow joint
Hand weapon
Make pads on the backs of the hands and knees look mechanical.
Thick soles make robots look sturdy.

Design of Head

You can use a pilot's helmet to help you design a robot's face.

Weapons
Base stance and grip on actual pose.

A single finger can double as the barrel of a gun capable of firing both bullets and laser beams.
Arm Cannons
The arm is equipped with barrels and magazines.
Hand Missiles/Handguns
Gattling type
Cannon type
Laser type

Magazine Arrangements

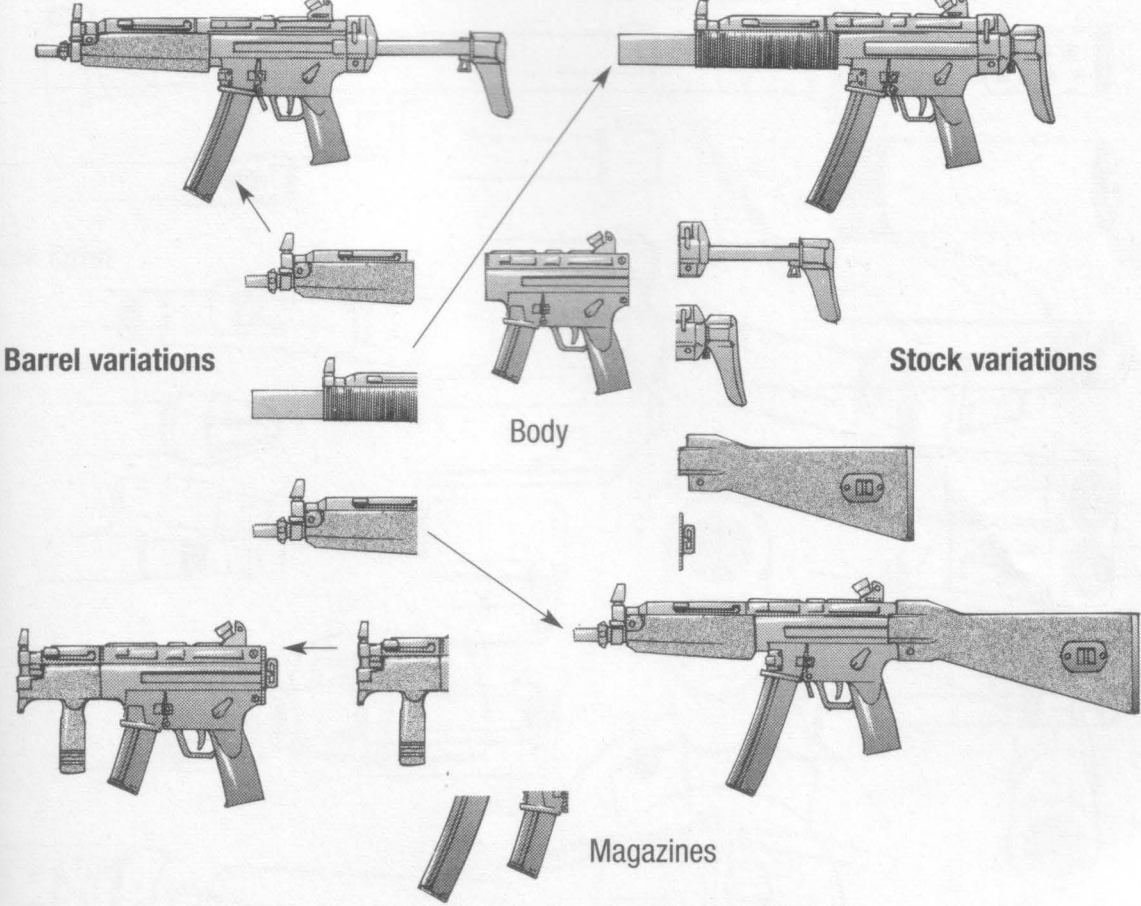
Apply magazines and loading systems to robot arm weapons.

Exchange and transformation of options

You can get a variety of shapes by exchanging and combining barrels and stocks.

Barrel variations

Body

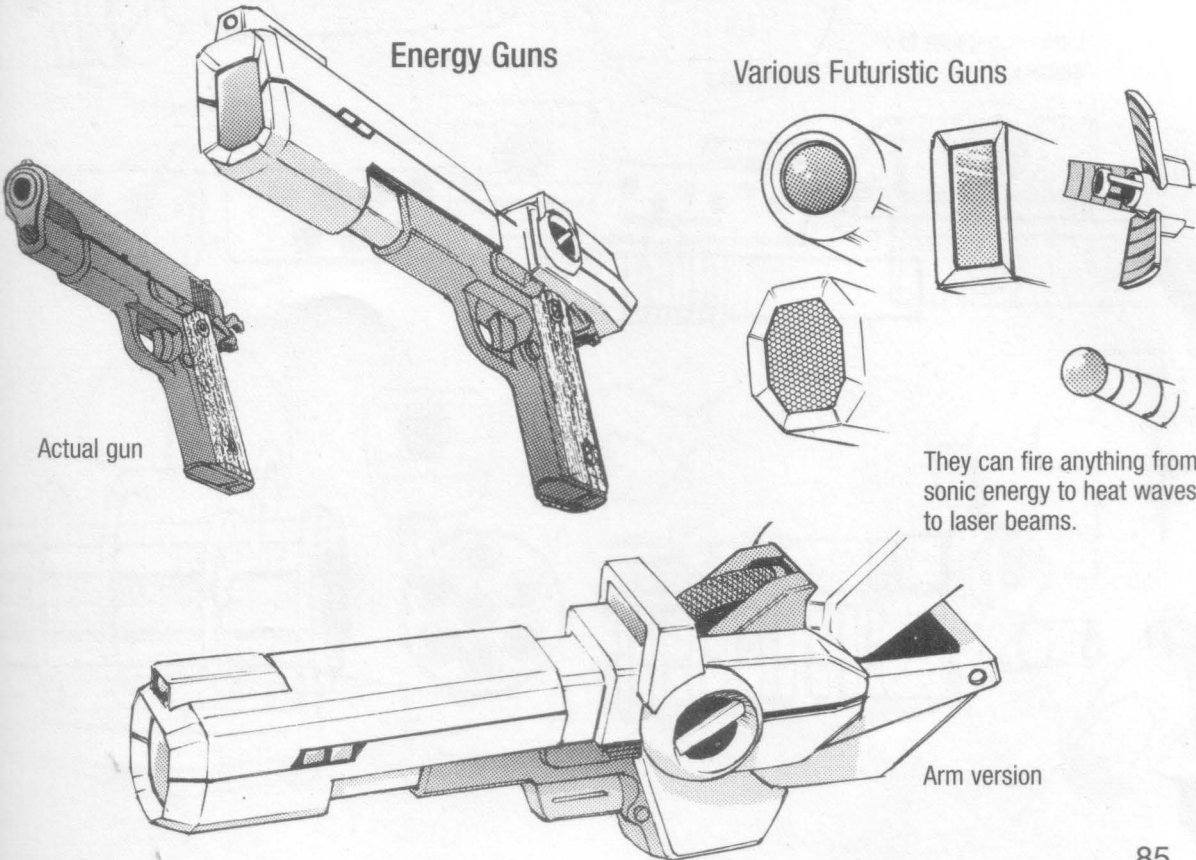
Stock variations

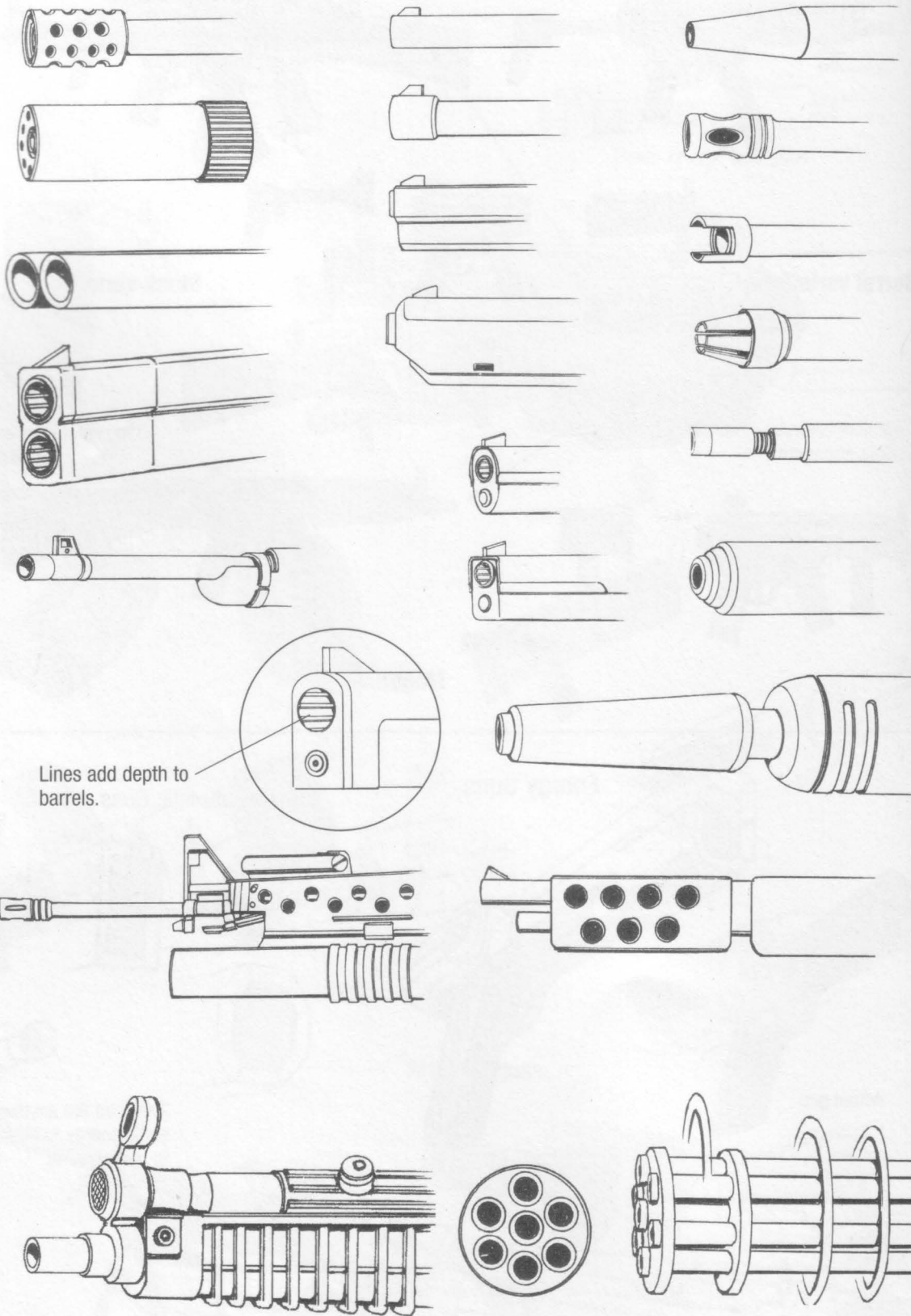
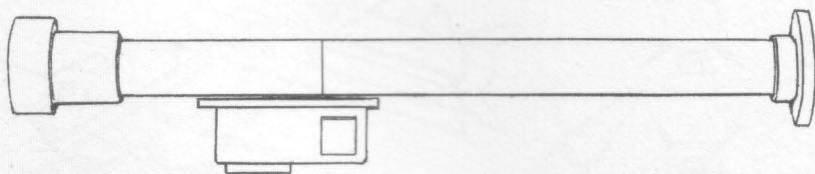
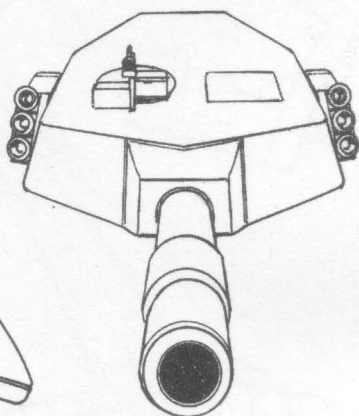
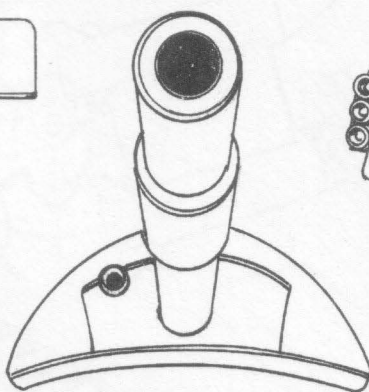
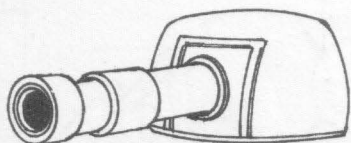
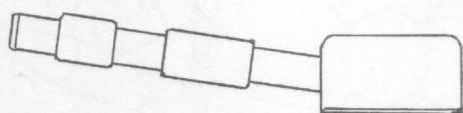
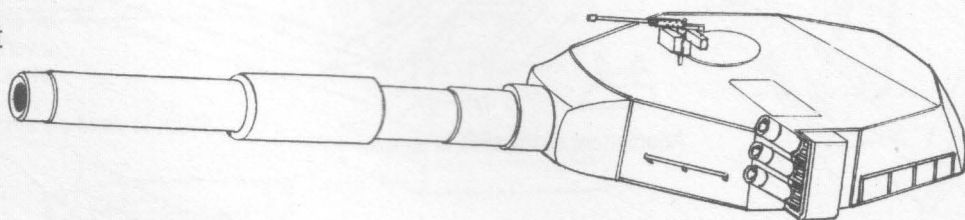
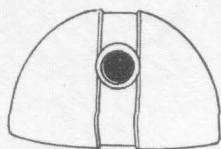
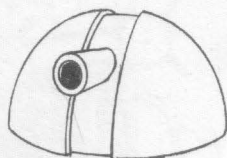
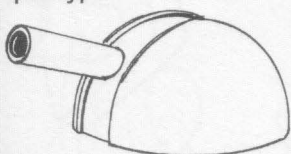
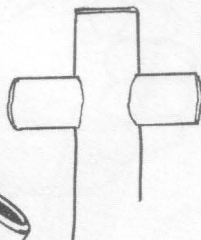
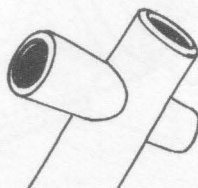
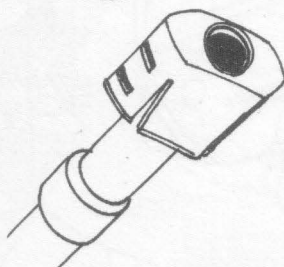
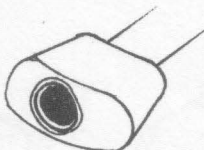
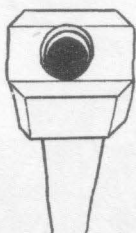
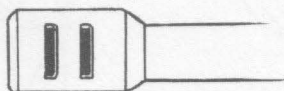
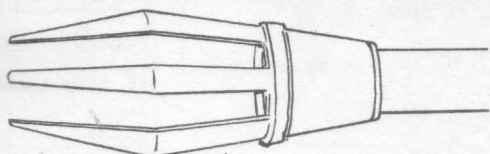
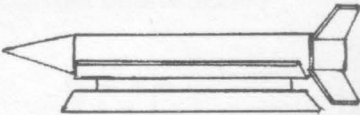
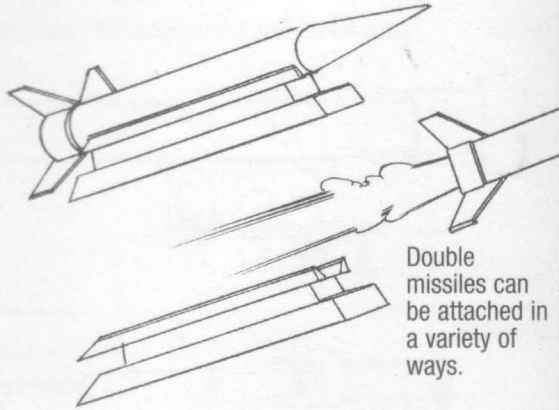
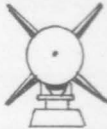
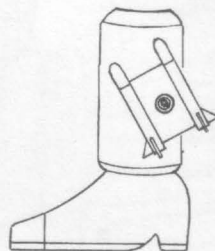
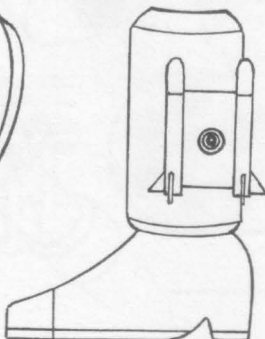
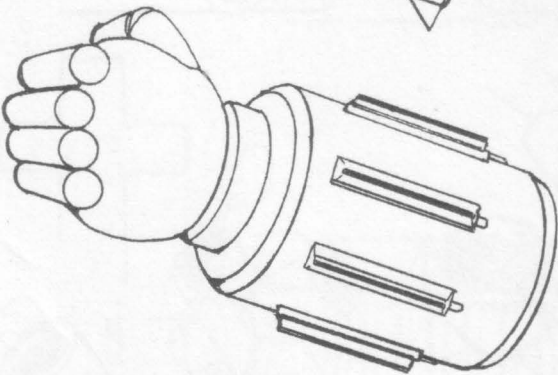
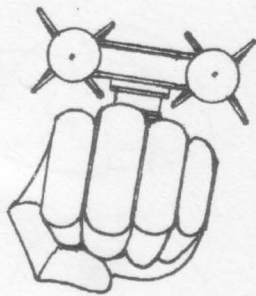
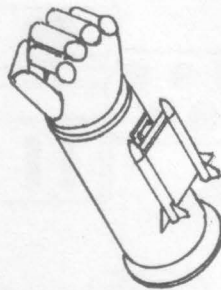
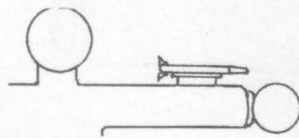
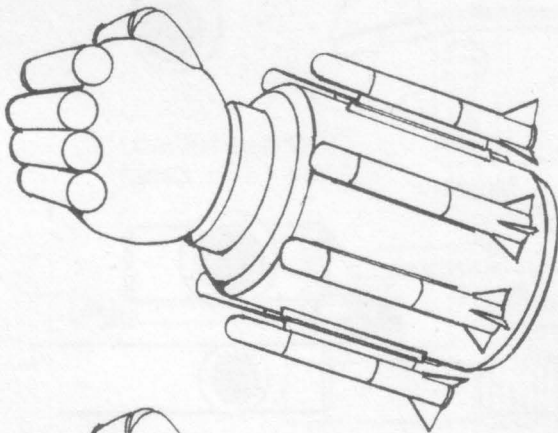
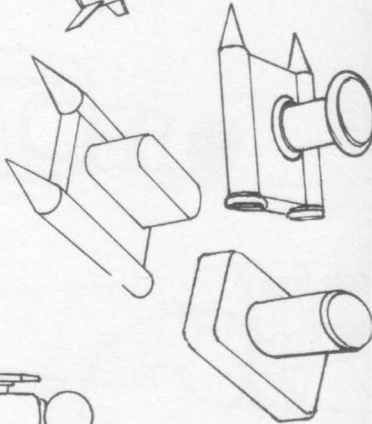
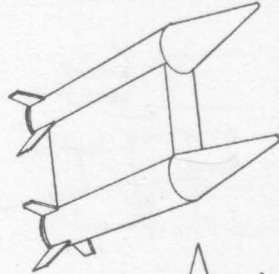
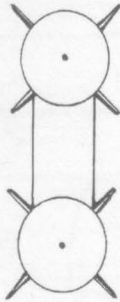
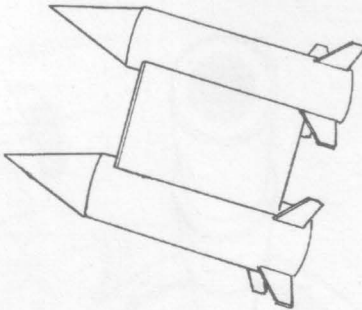
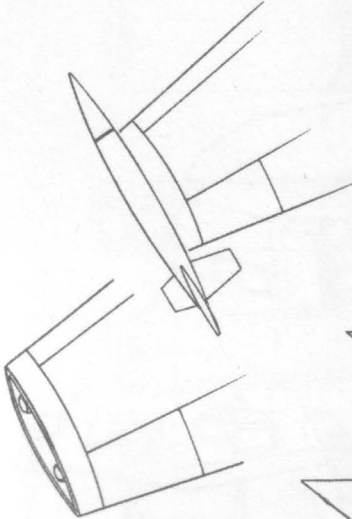
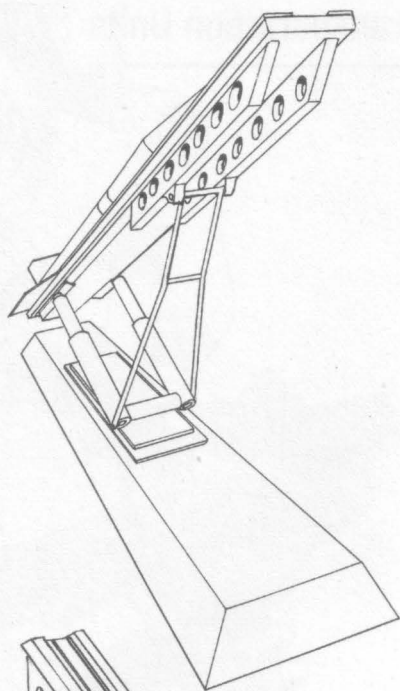
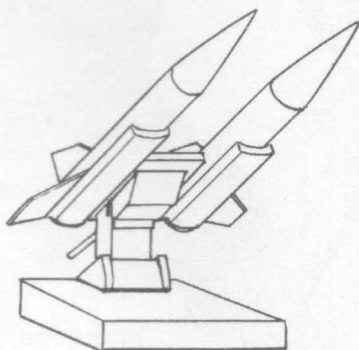
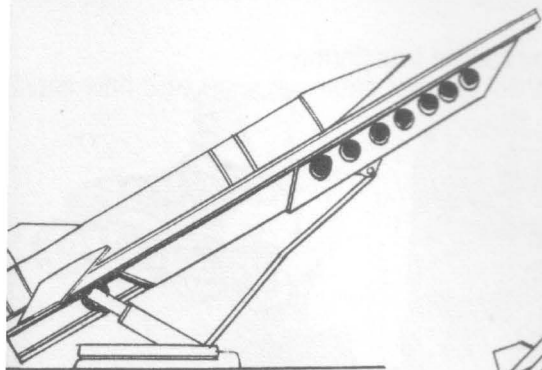
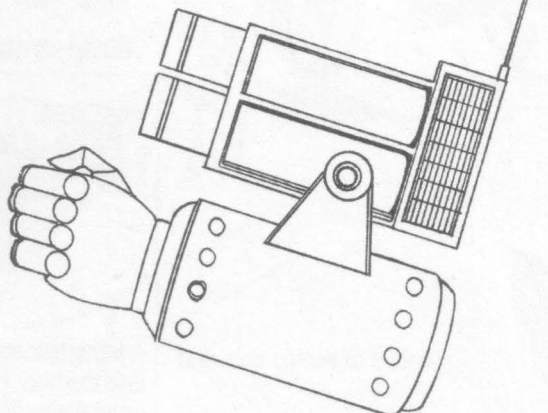
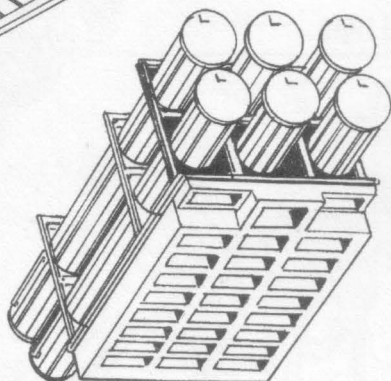
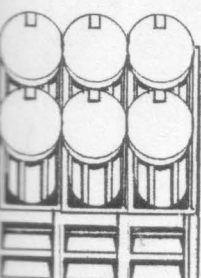
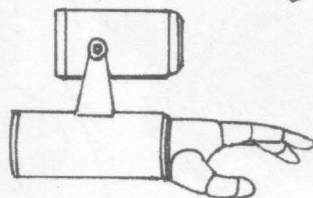
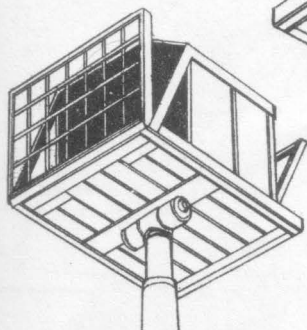
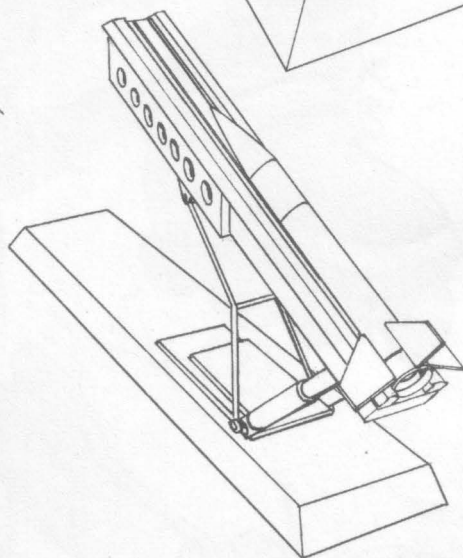
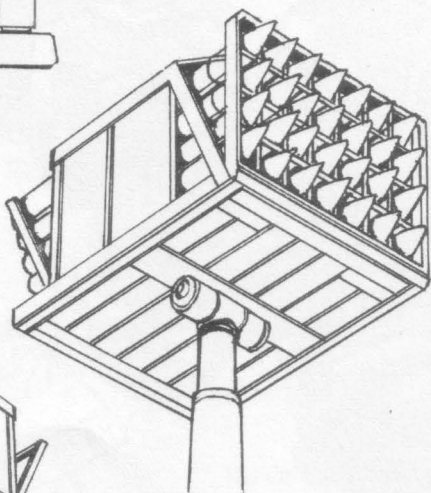
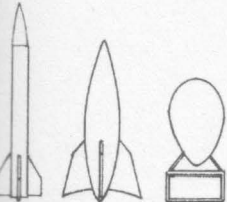
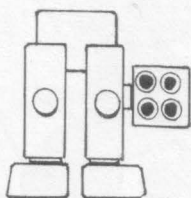
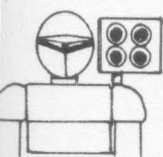
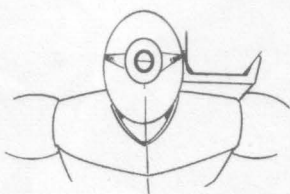
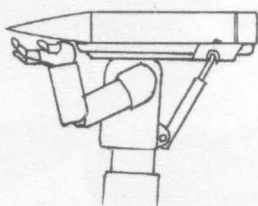
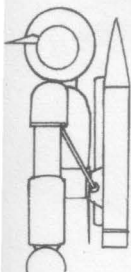
Magazines

Energy Guns

Various Futuristic Guns

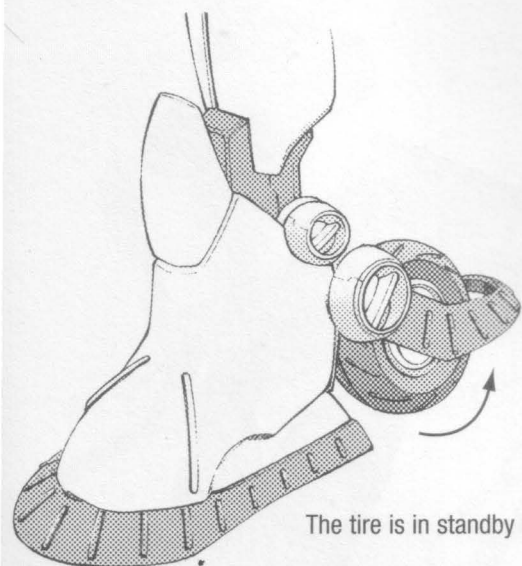
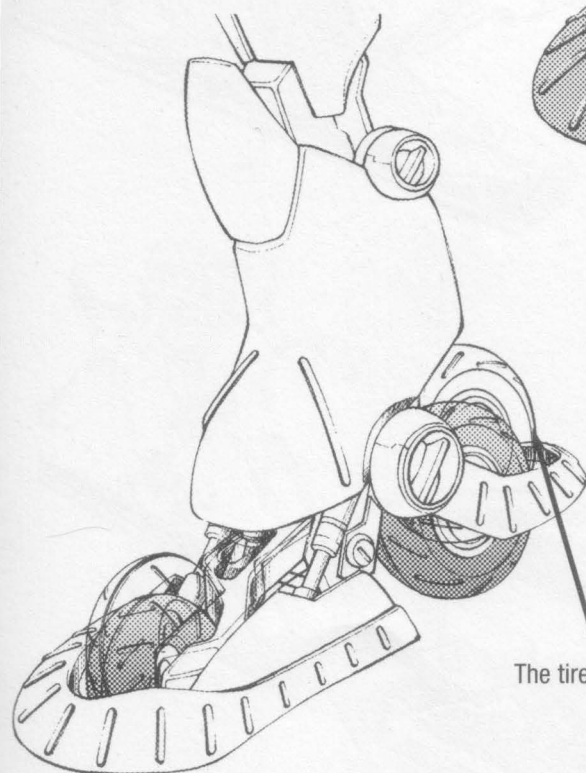
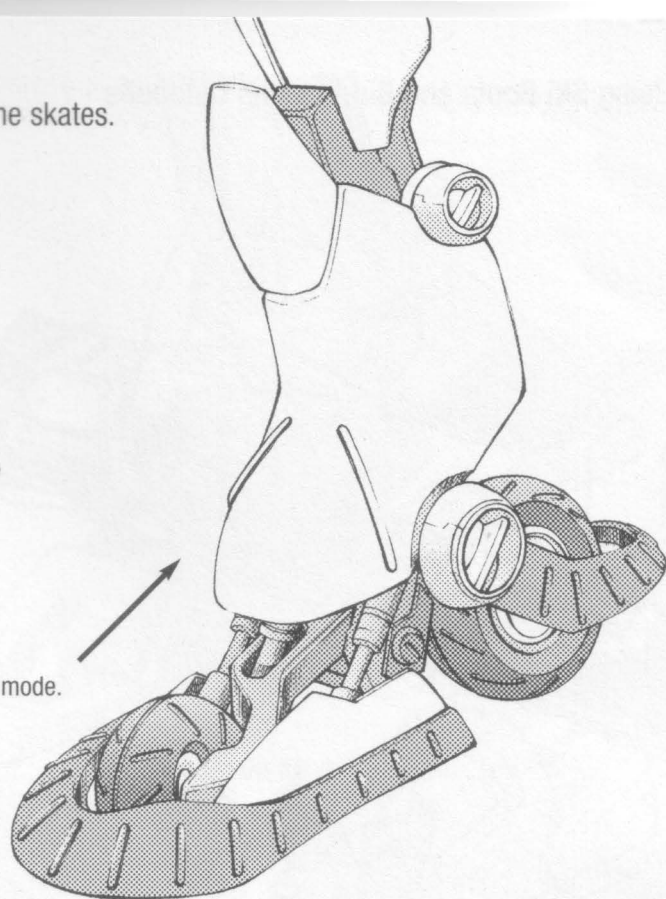
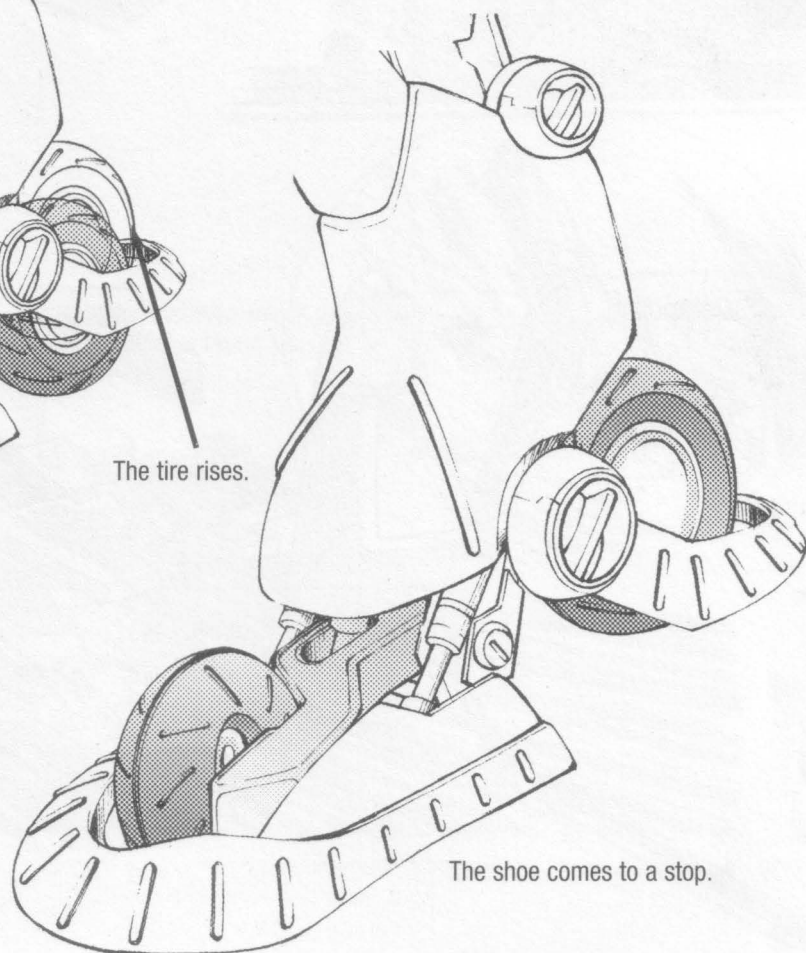
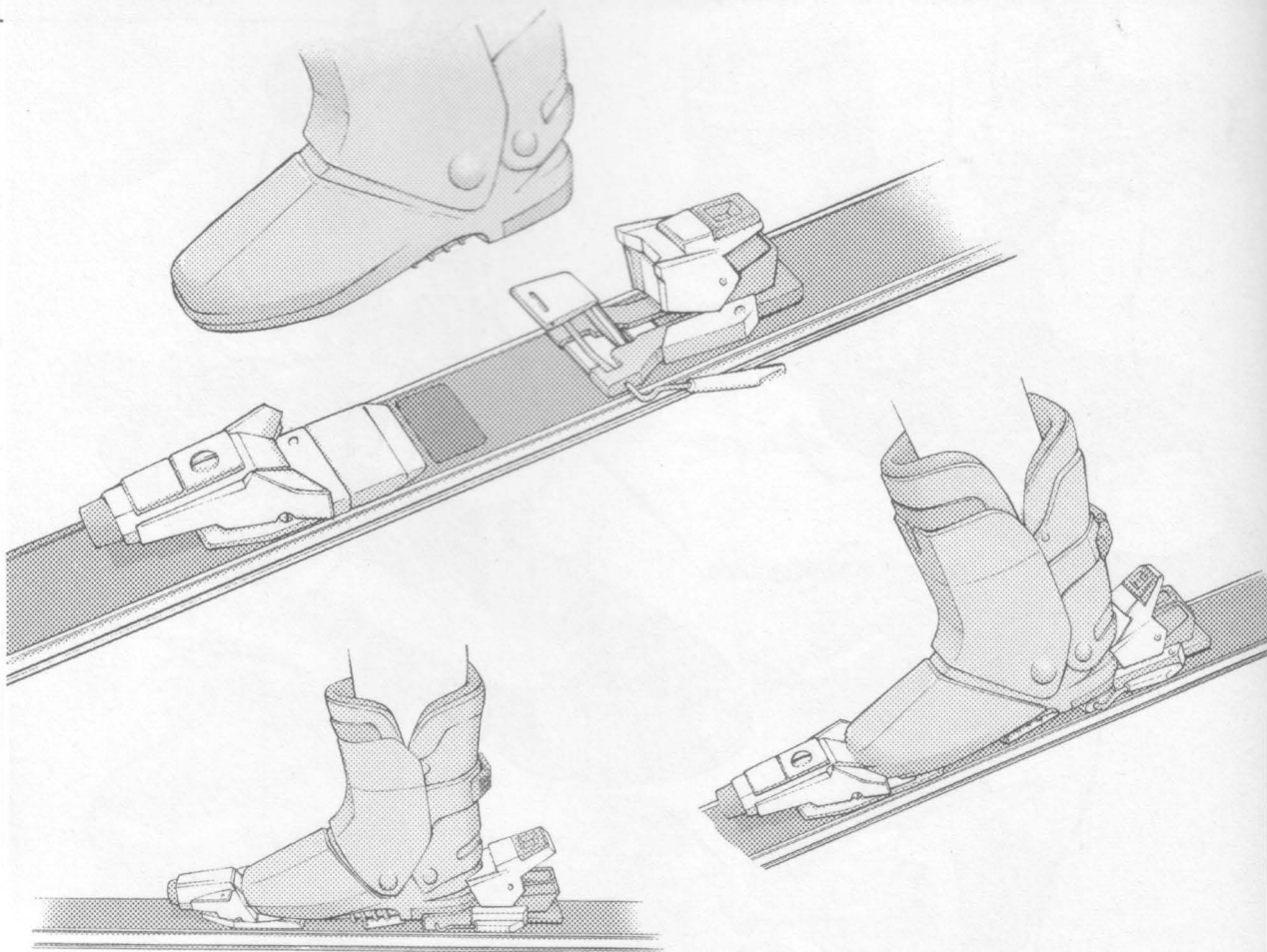
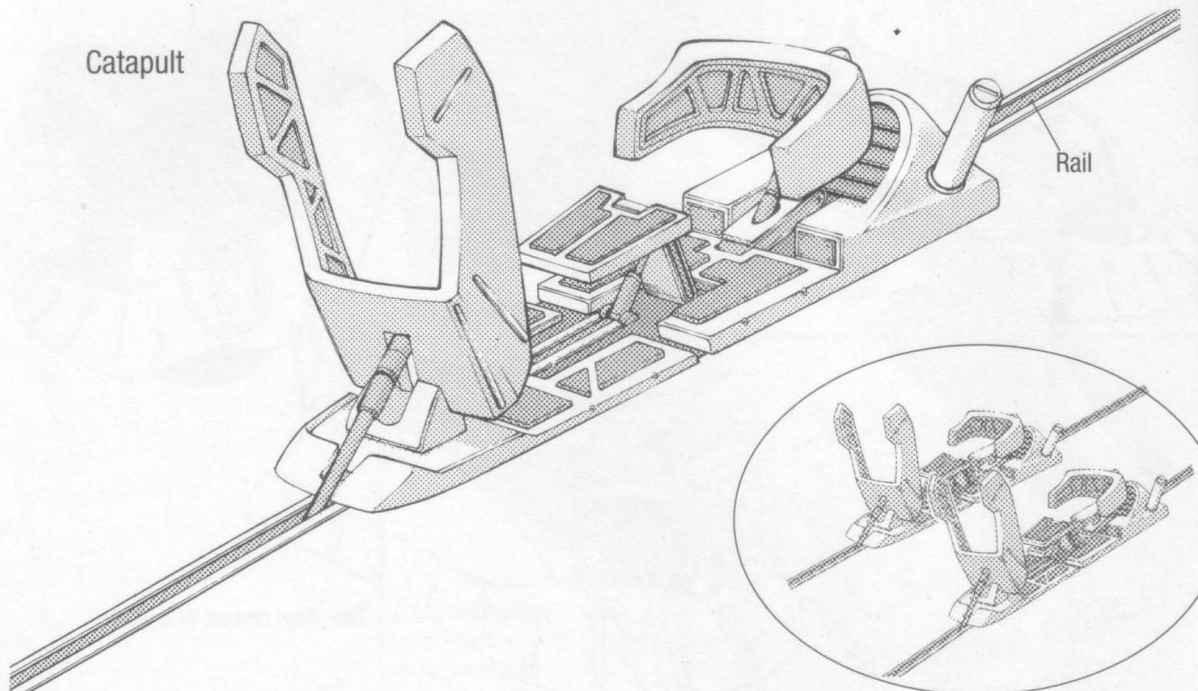
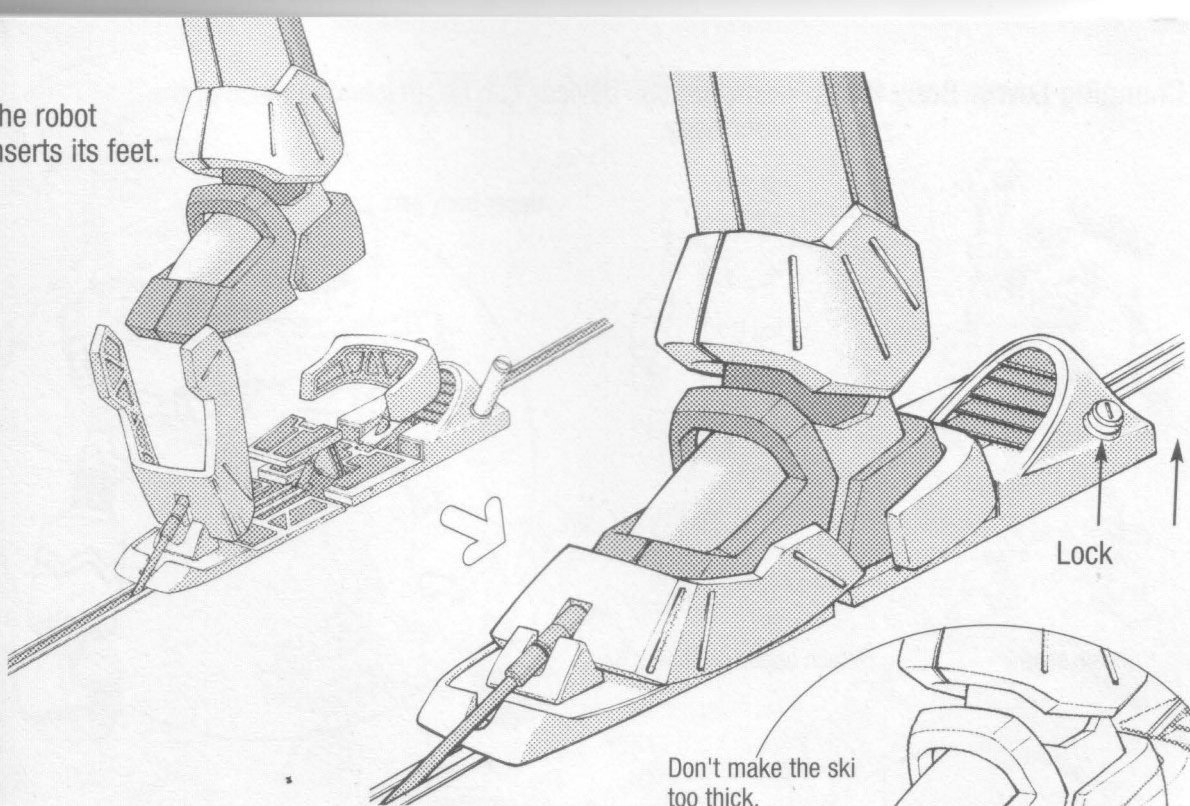
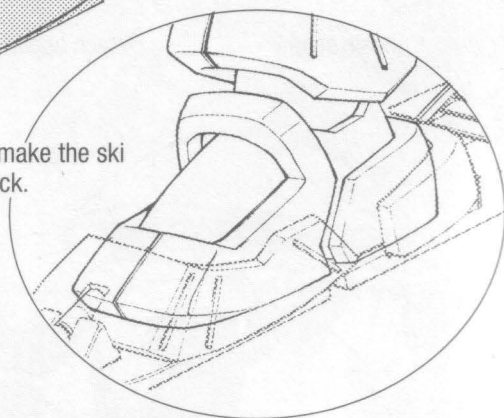
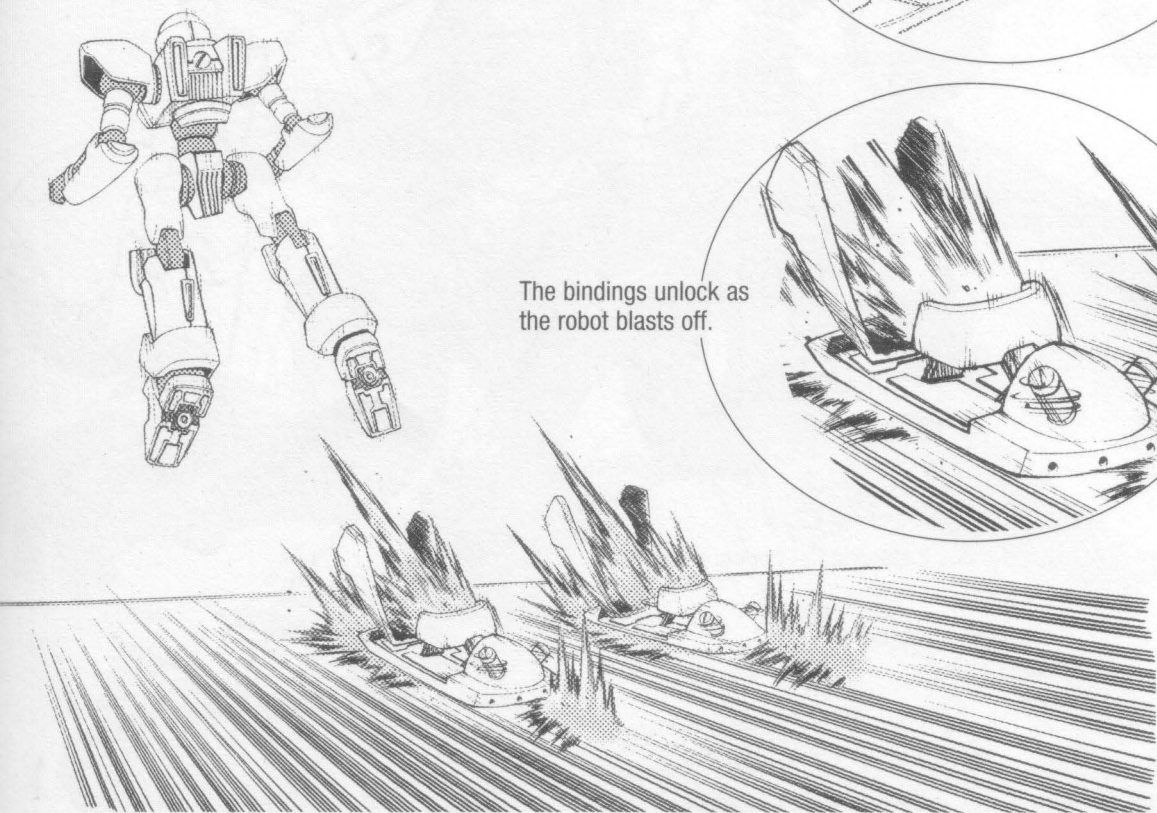
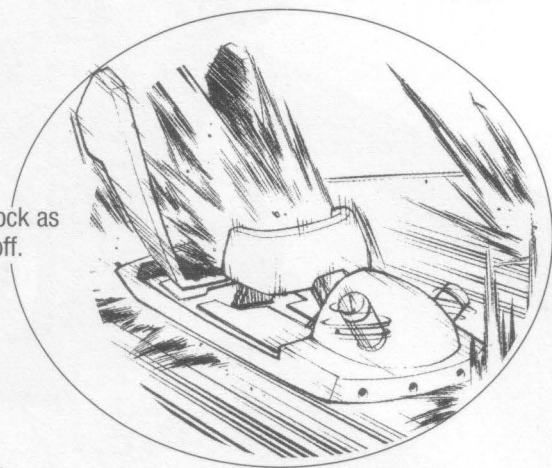
Actual gun

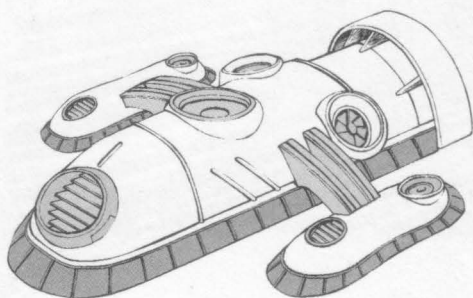
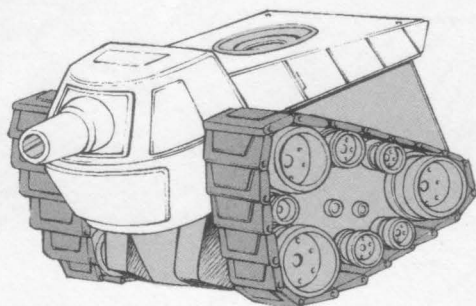
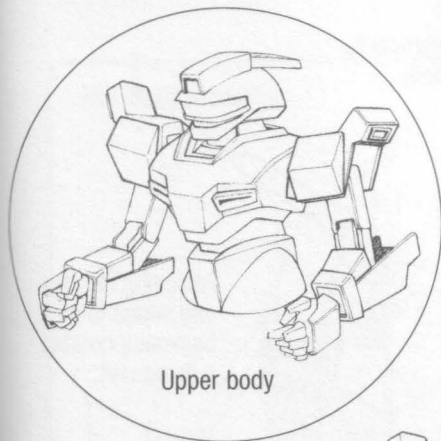
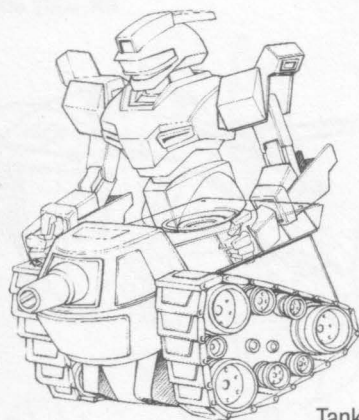
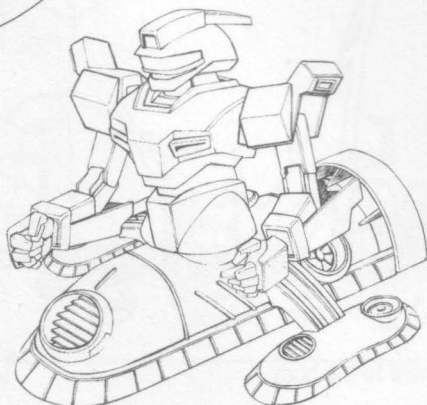
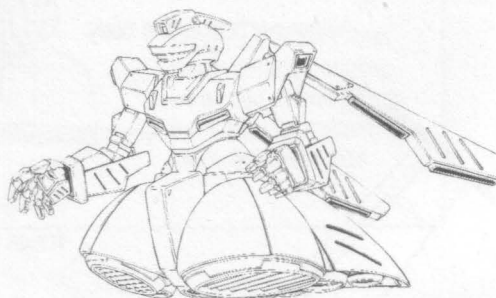
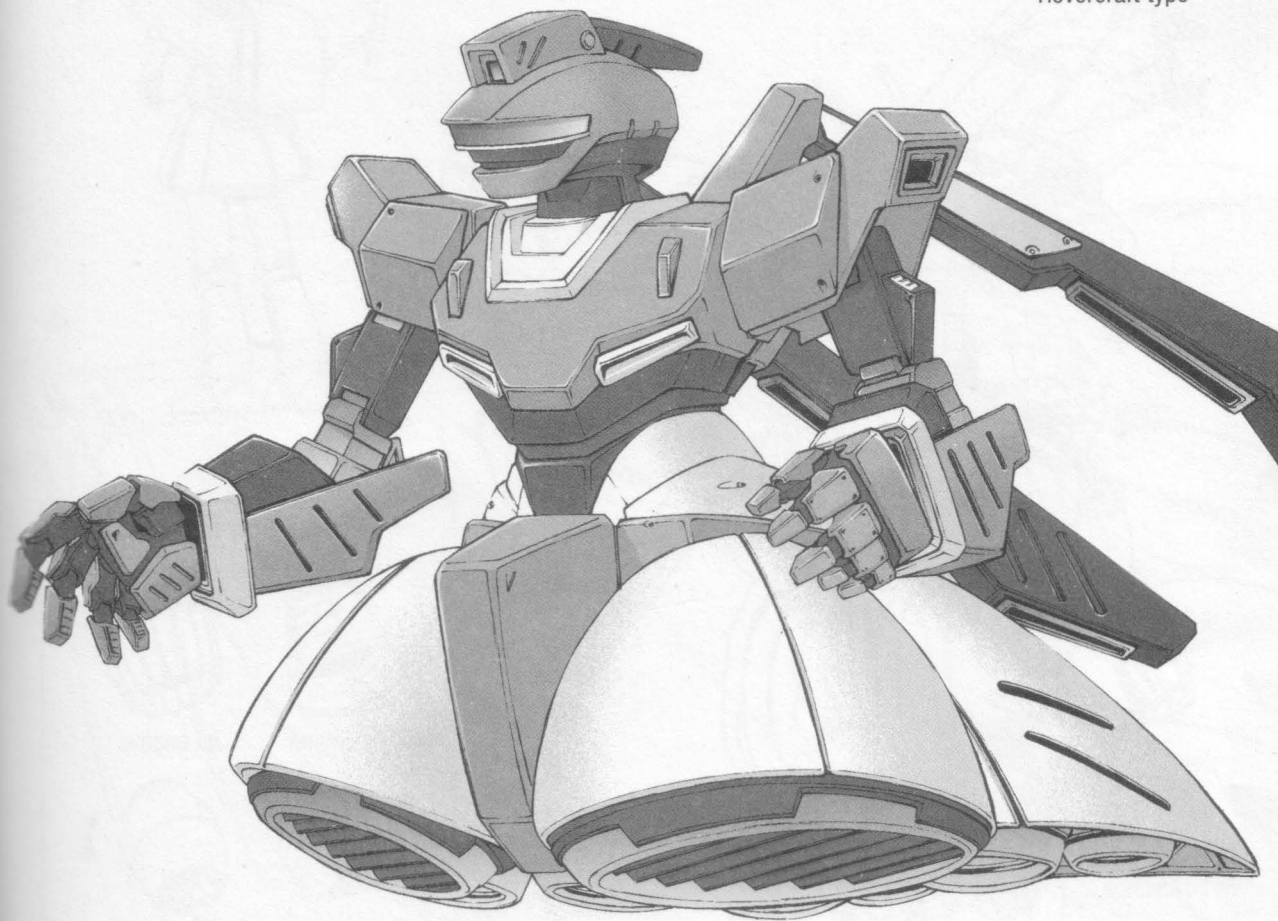
They can fire anything from sonic energy to heat waves to laser beams.

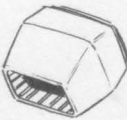
Arm version

Barrels and Muzzles

Use a variety of gun types, including sidearms, rifles and automatics.

Bazooka
Tank turret
Simple type
Muzzle
Tip of self-propelled
anti-aircraft gun

Missiles

Sidewinder
Attachment of missiles is simple.
Double missiles can be attached in a variety of ways.

Mount launcher on back of robot

Transportation Units

Common items such as skates can be transformed into high-tech conveyances.

Shoes with tires have the same form as inline skates.

They usually come in a set of two placed side by side

The robot
inserts its feet.
Lock
Don't make the ski
too thick.
The bindings unlock as
the robot blasts off.

Changing Lower Body Parts

Transportation devices can be attached in place of the lower body.

The robot does not even need a
lower body at first.
Upper body
Tank type
Marine type
Hovercraft type

Flying Parts and Wings

There are two types of wings: Those that are vertical to the body and those that are horizontal to the body.

Horizontal wings

Top

Bottom

Side

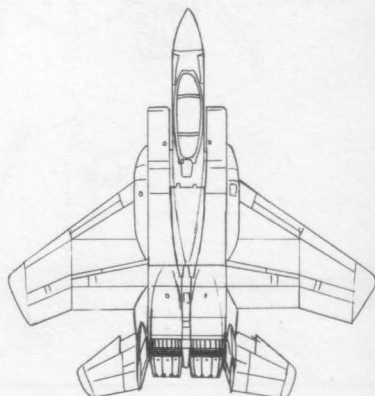
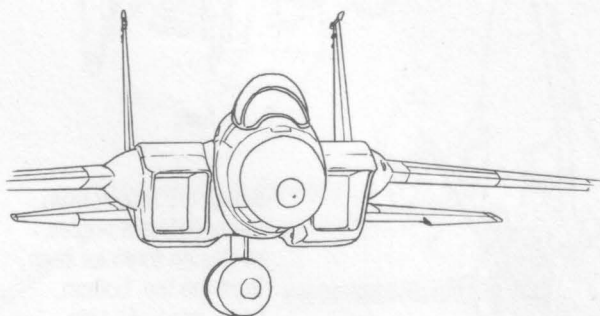
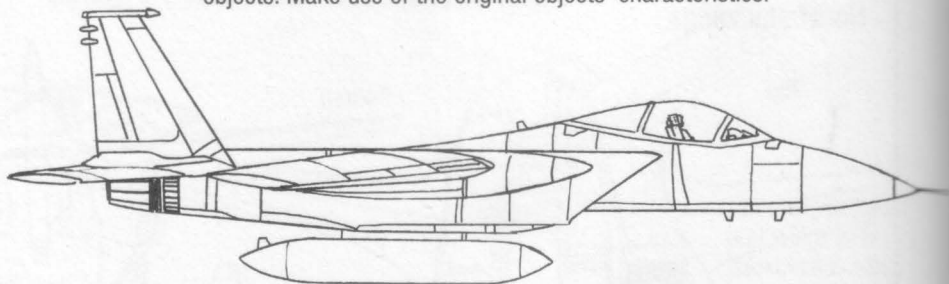
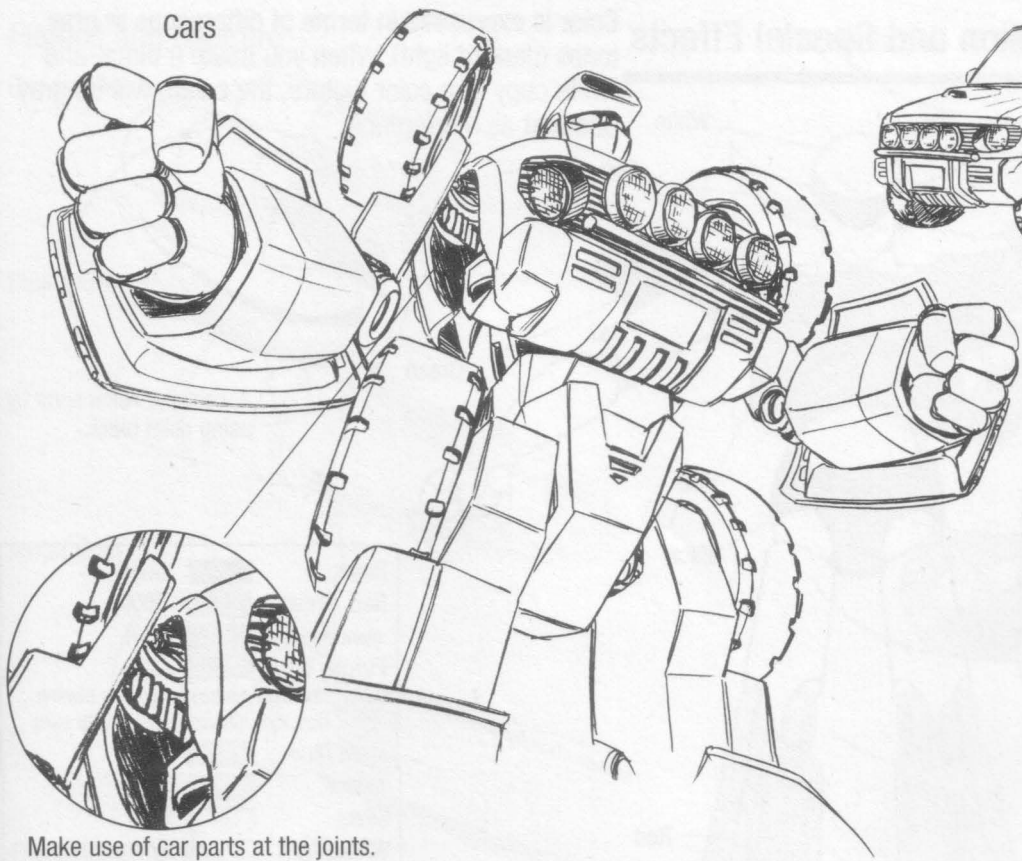
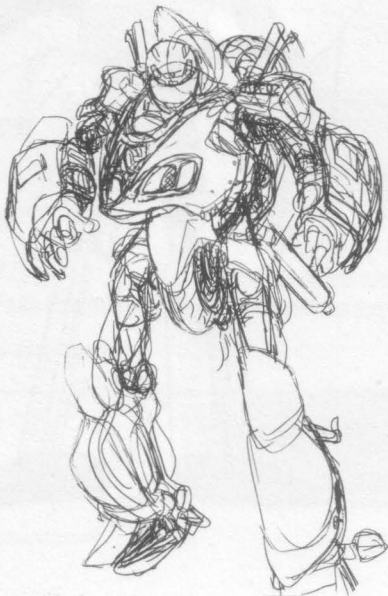
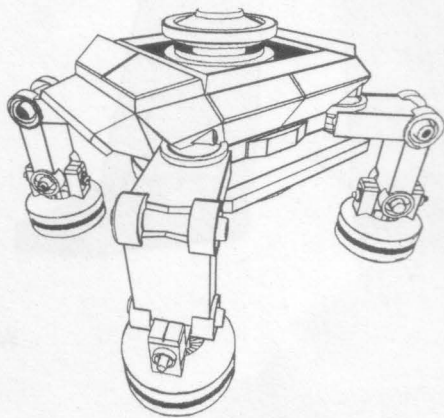
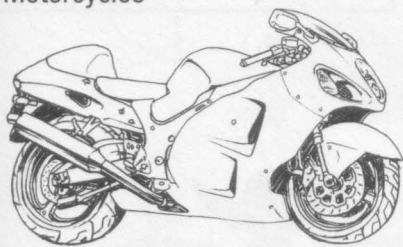
Back

Front

Wings are drawn from many different angles, so design them as seen from the top, bottom, back, front and side.

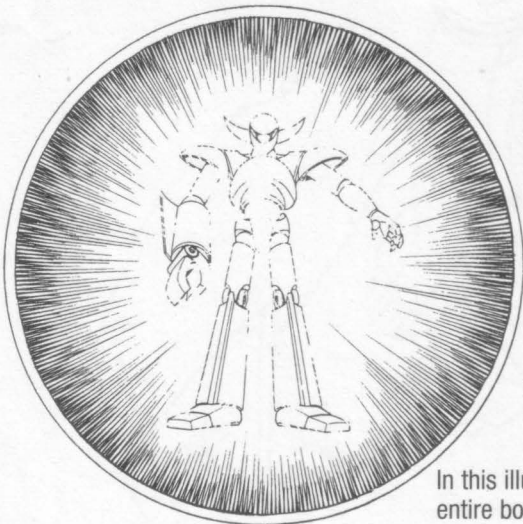
Transformers

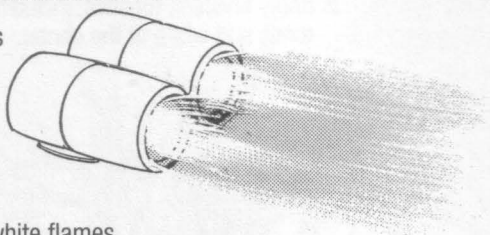
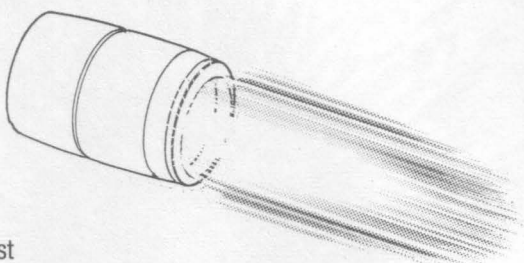
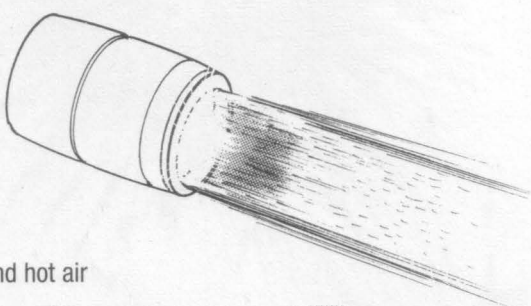
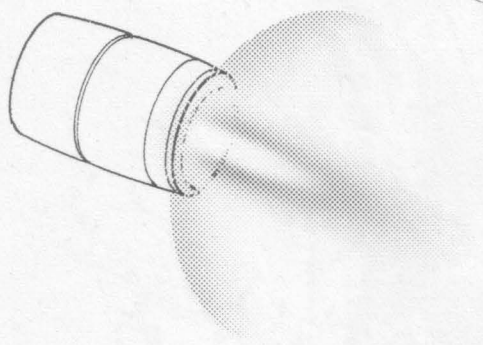
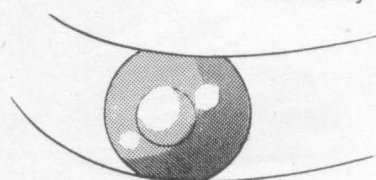
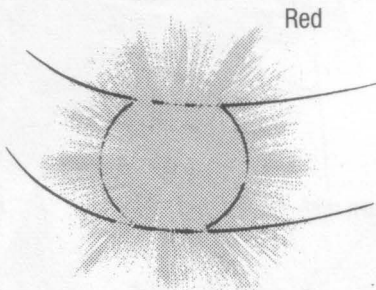
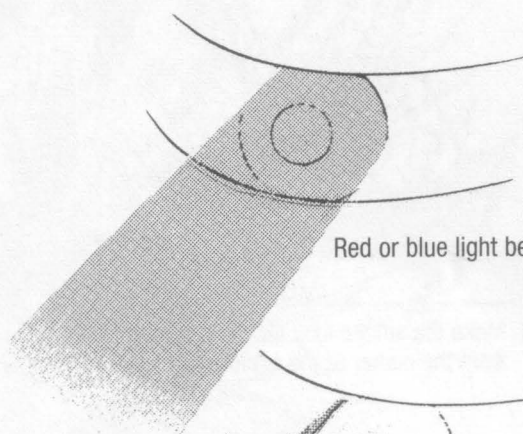
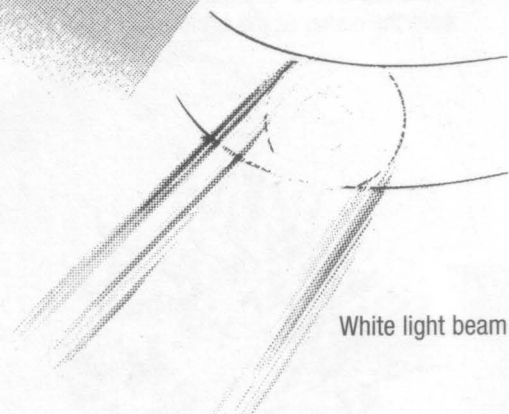
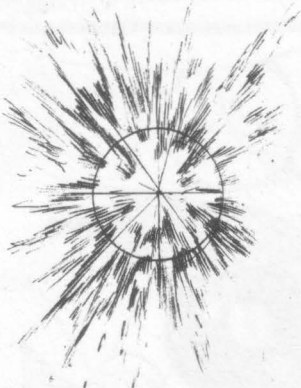
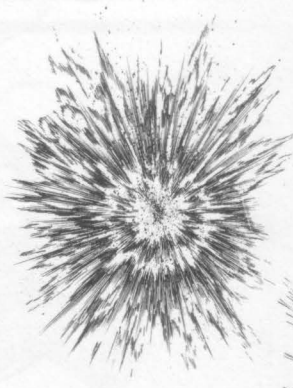
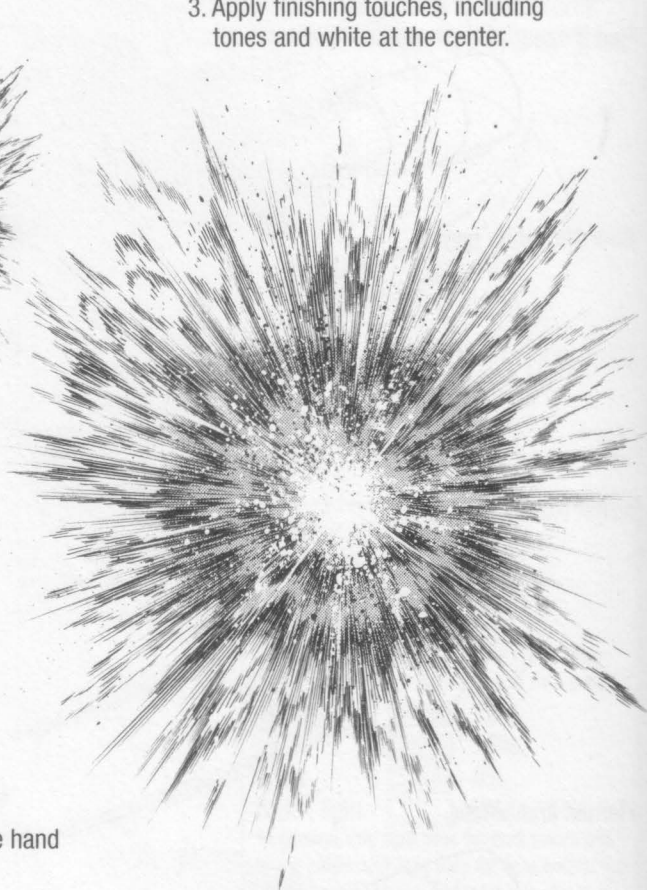
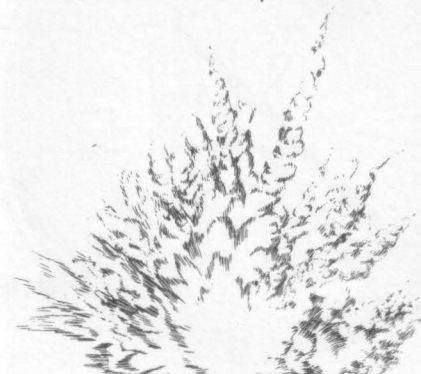
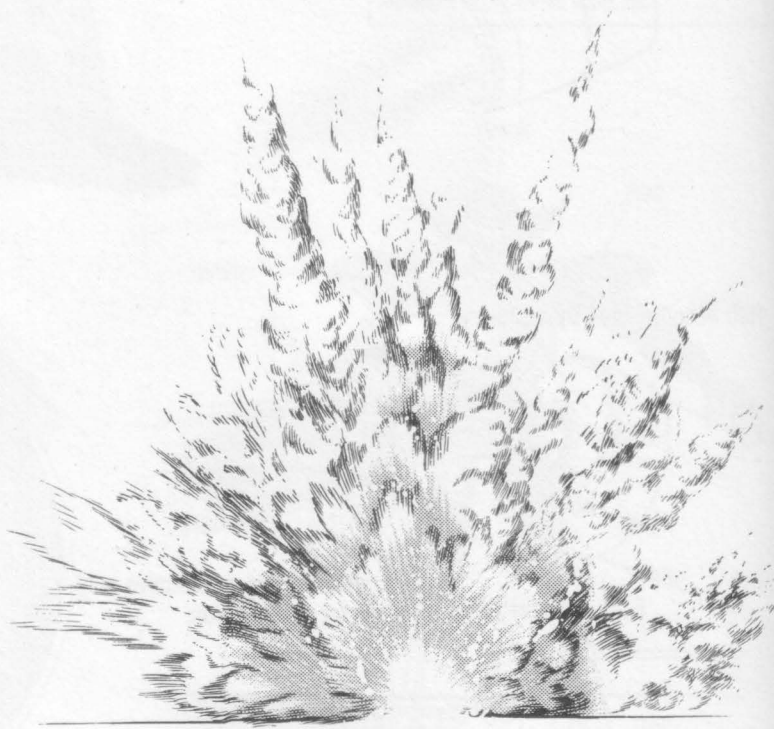
Create a robot by combining parts from jet fighters, cars and other objects. Make use of the original objects' characteristics.

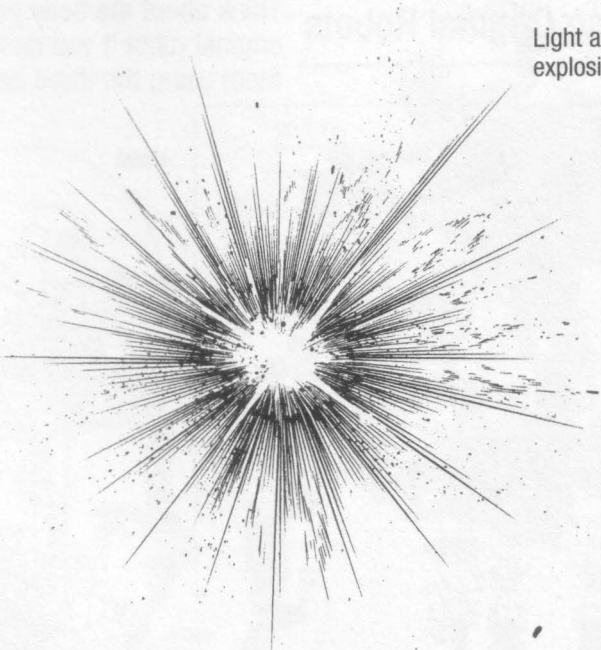
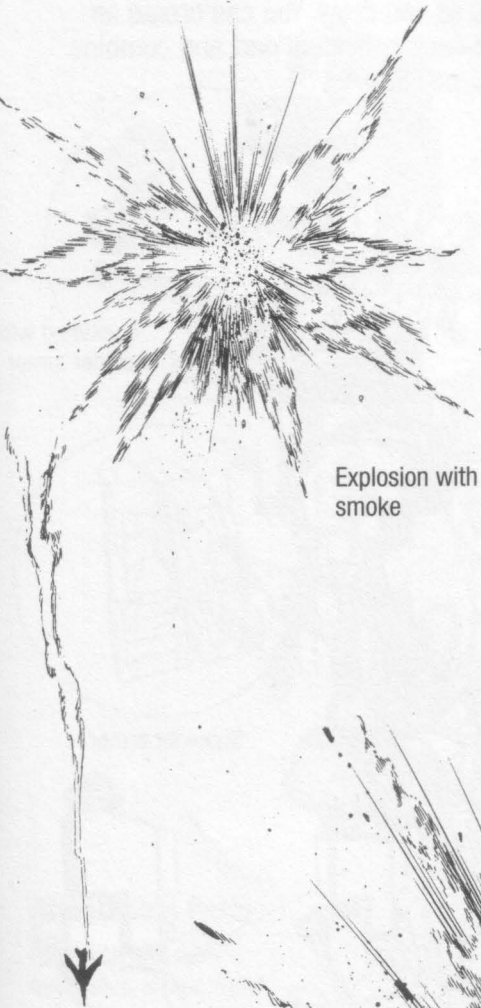
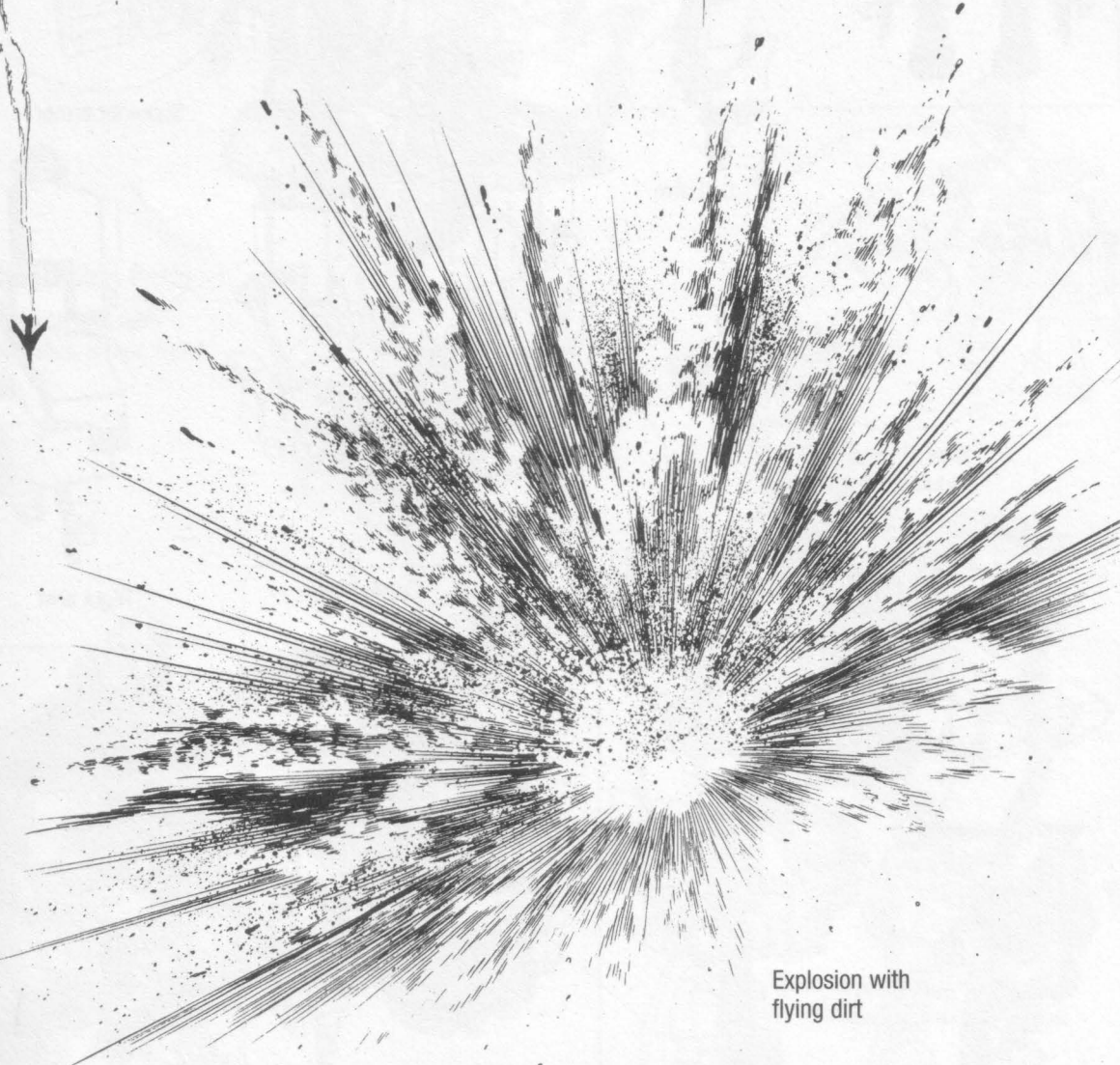
Jet fighters

If you design a robot by clearly combining parts from other mechanical devices, it will look like the robot has combined with another robot or transformed into another machine.

Cars
Make use of car parts at the joints.
Motorcycles

Color Expression and Special Effects

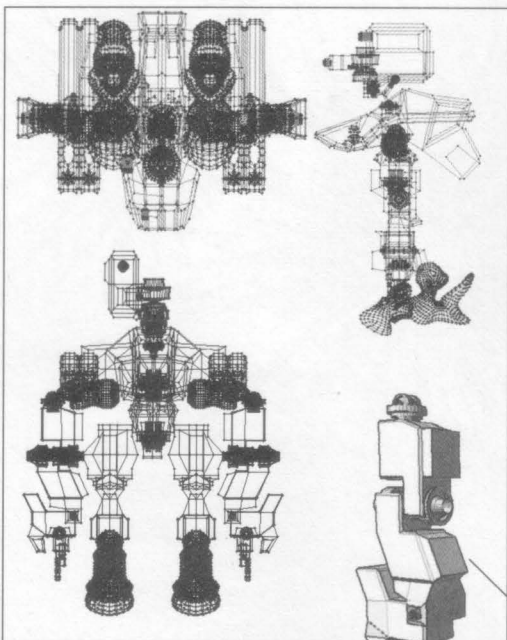
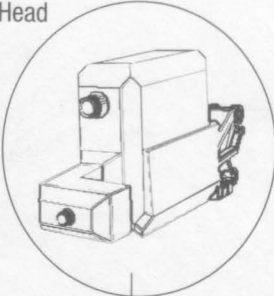
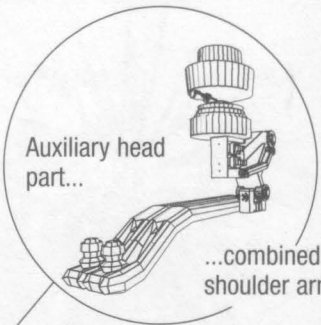
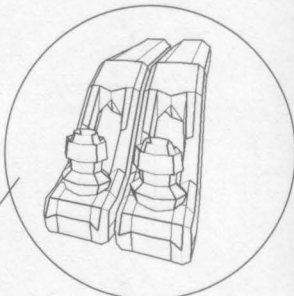
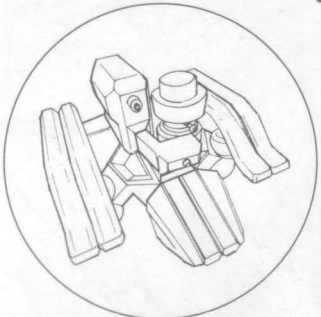
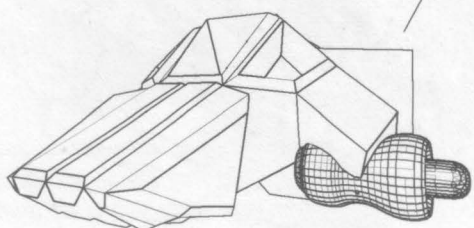
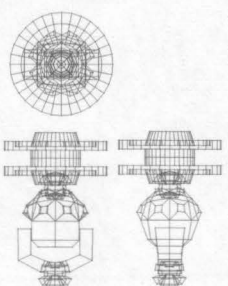
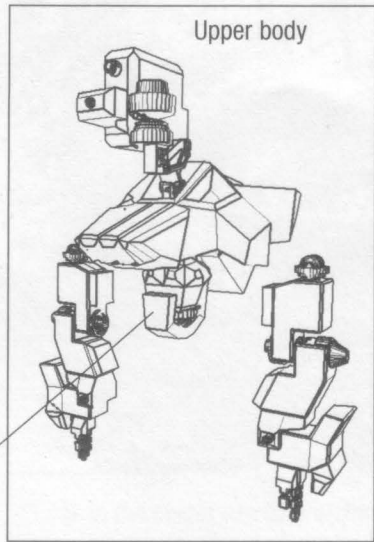
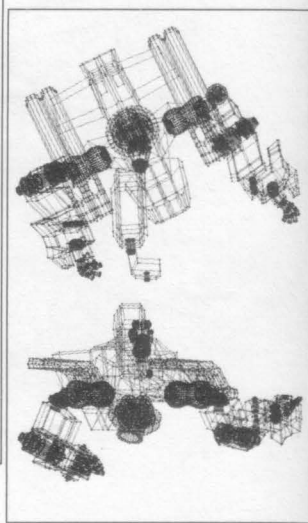
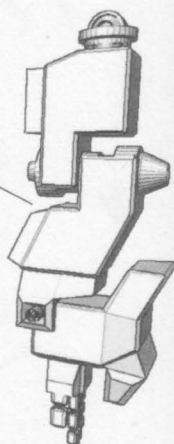
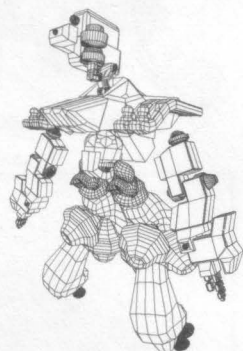
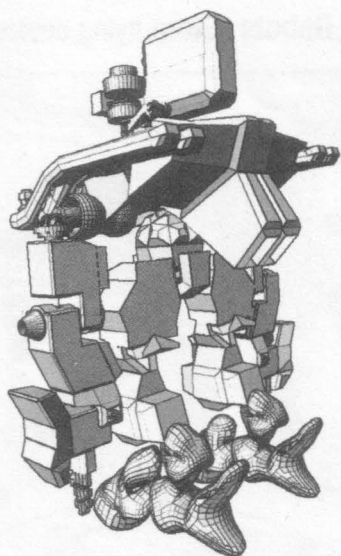
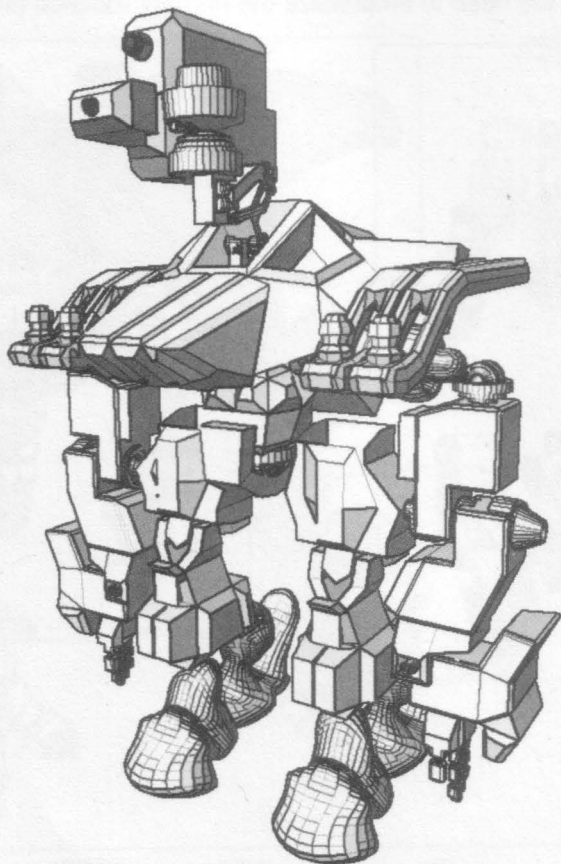
Color is expressed in terms of differences in gray tones (dark or light). When you make a black-and white copy of a color picture, the colors will be gray. Use that as a reference.

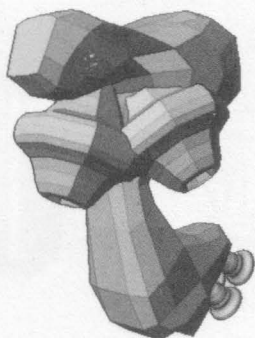
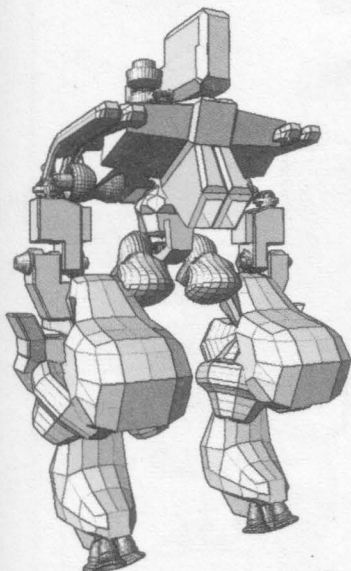
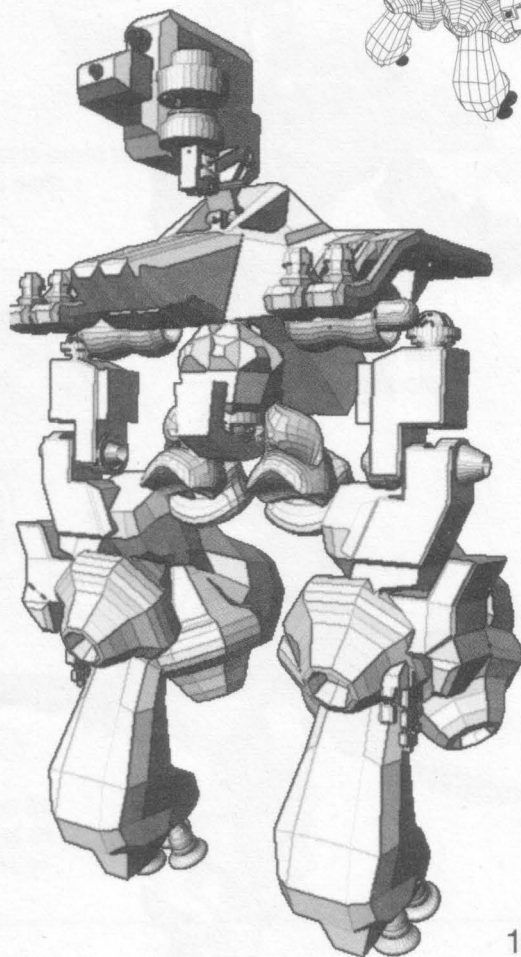
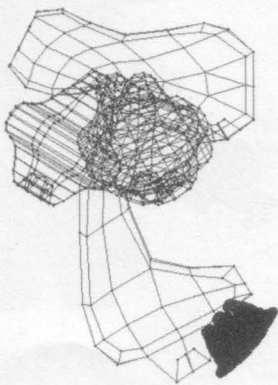
Color	Tone
Black	Solid
Red, green	30%
(dark colors)	25%
Purple, blue	20%
Gold	*Increase contrast of gold by planing dark tone. Should combine with solid.
Light blue	15%
Yellow	10%
Silver	5%
White, light	White (0%)

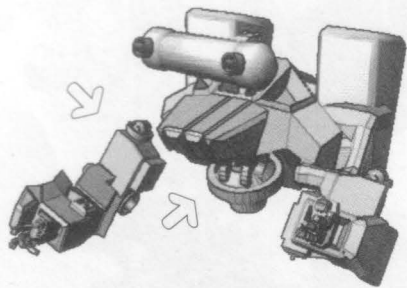
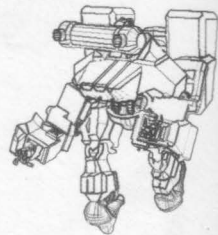
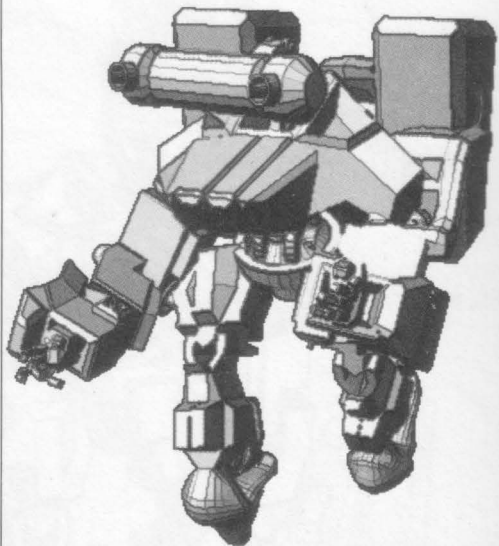
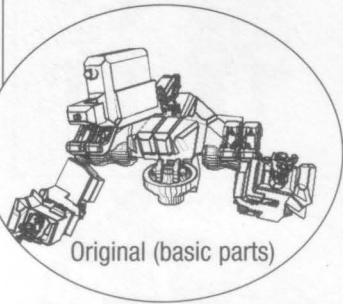
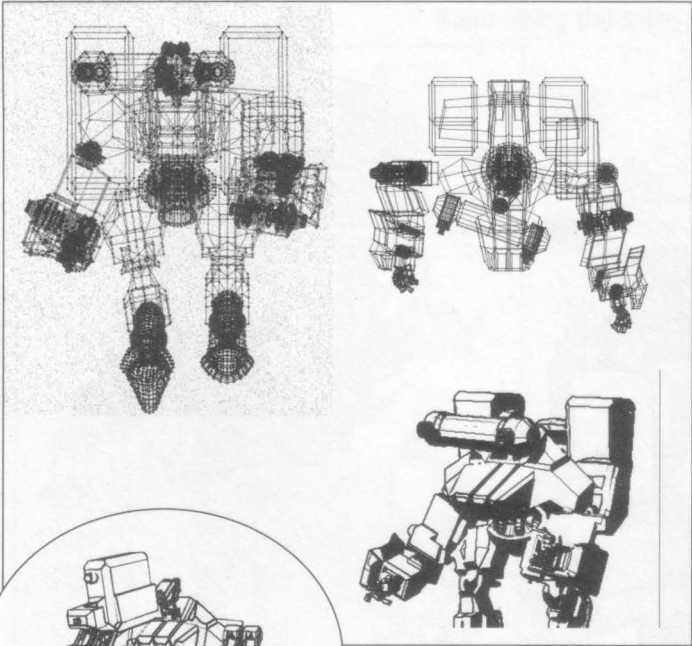
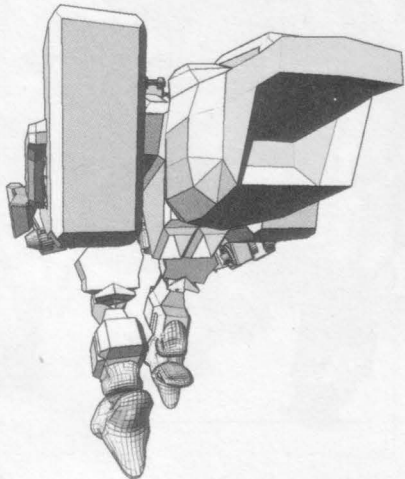
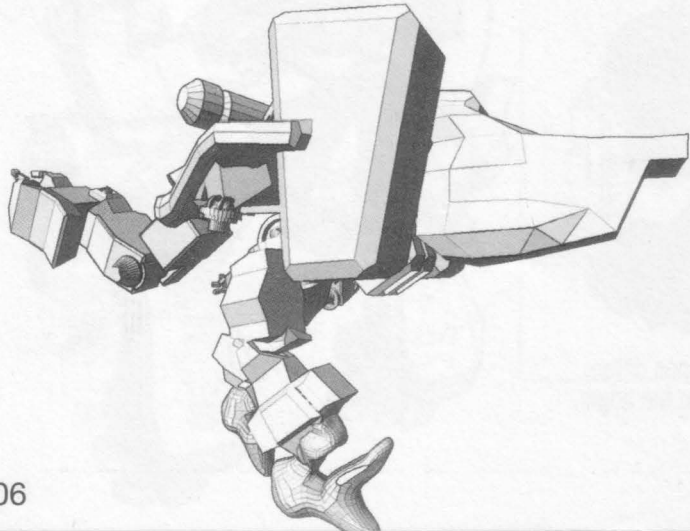
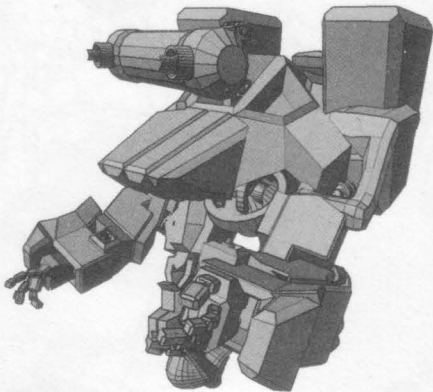
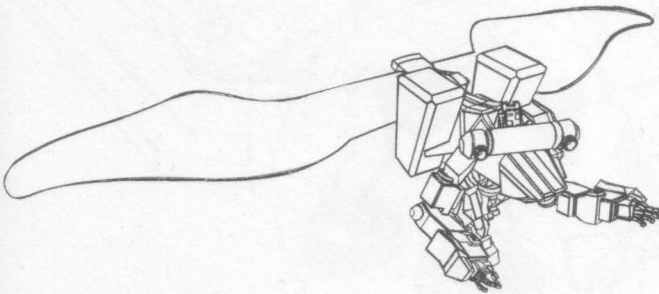
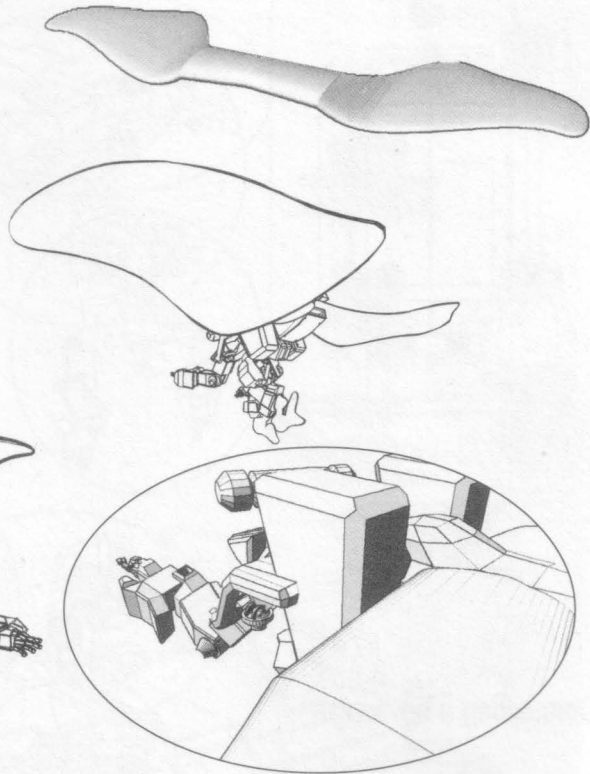
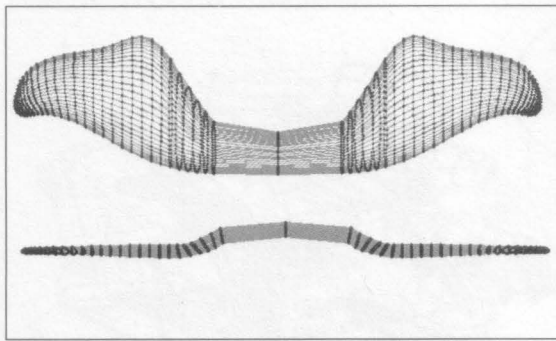
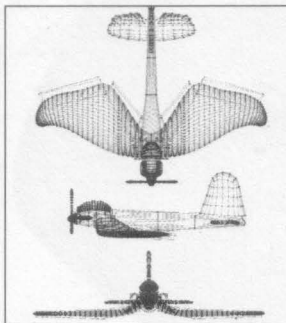
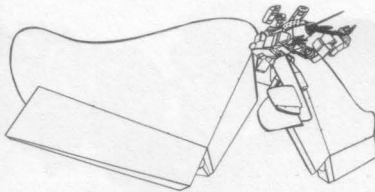
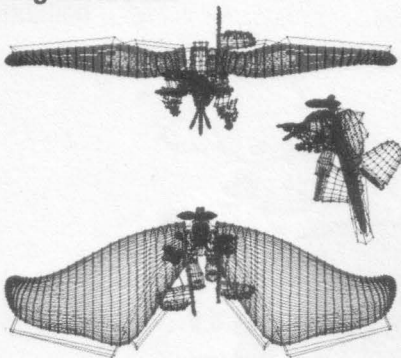
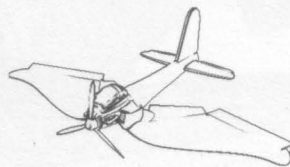
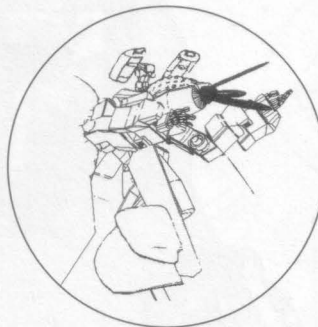
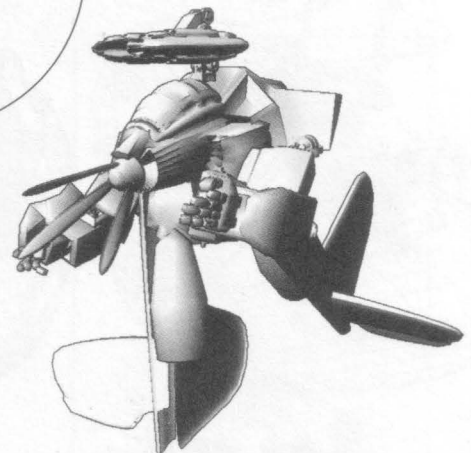
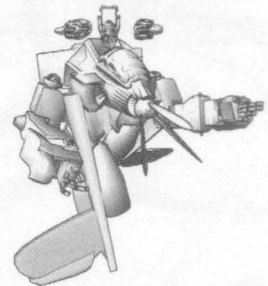
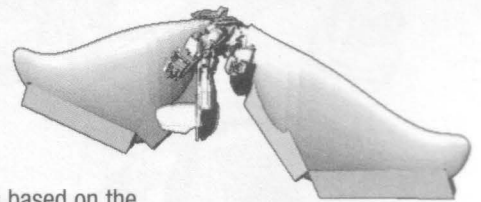
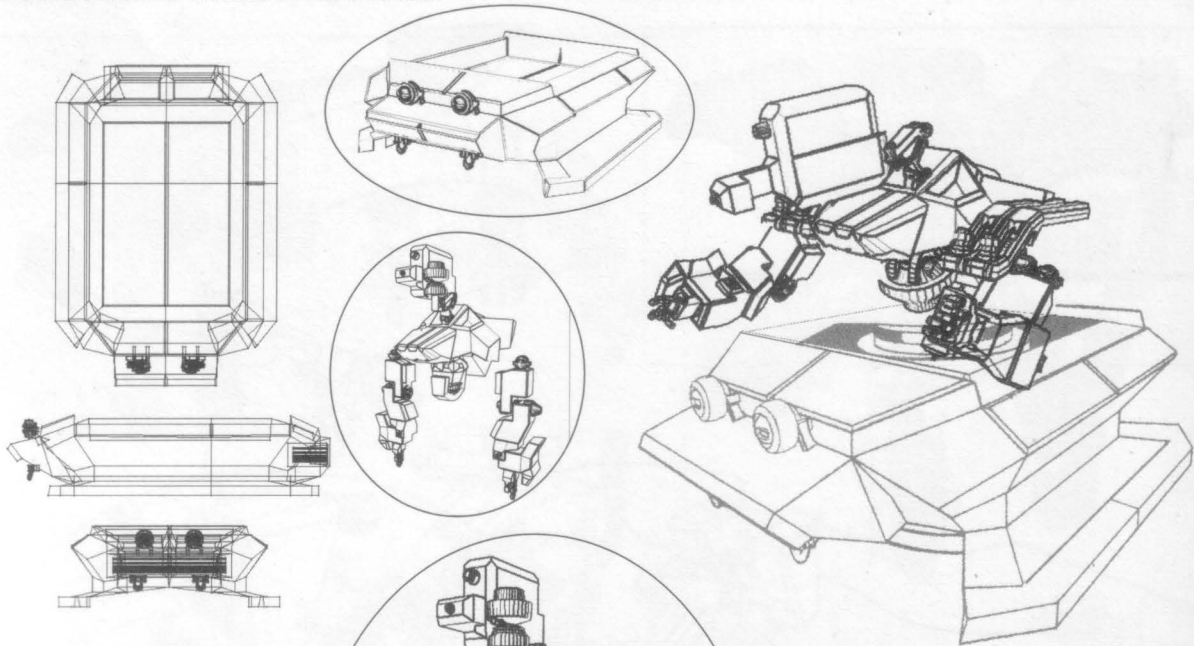
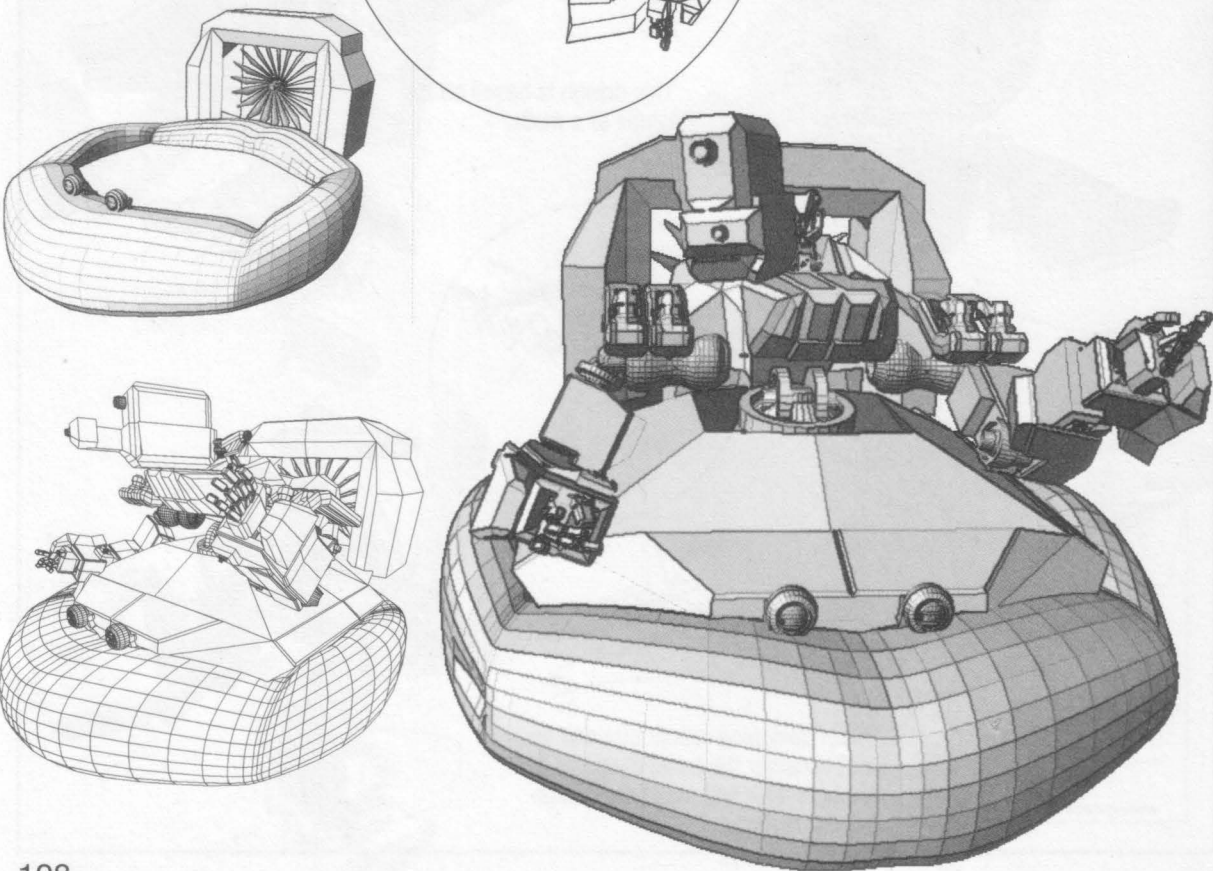
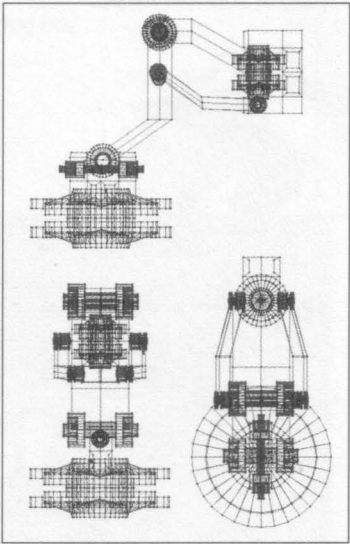
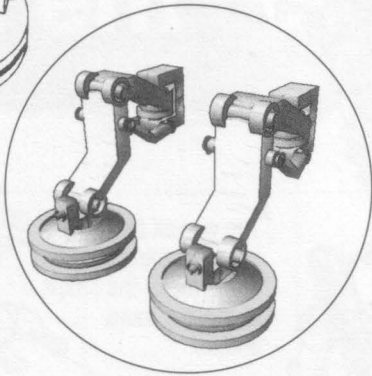
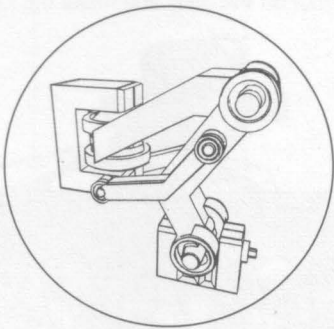
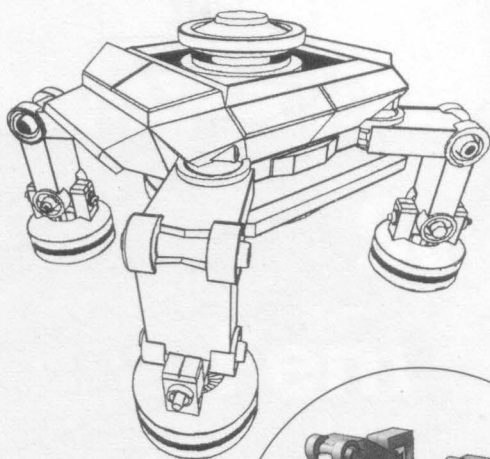
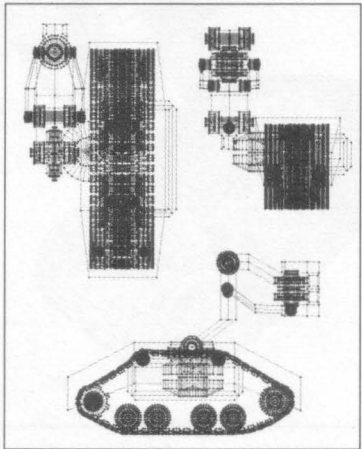
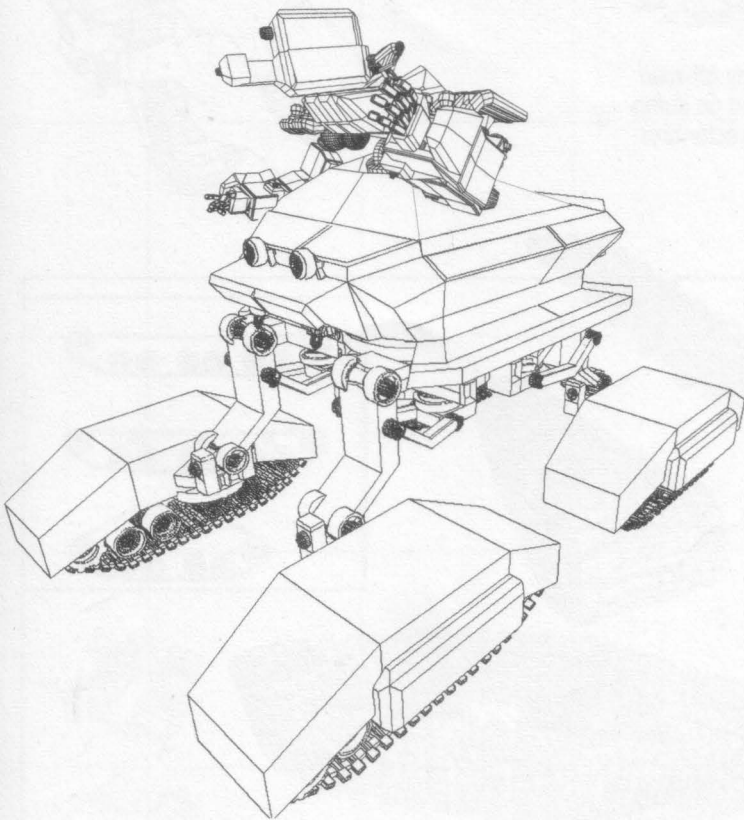
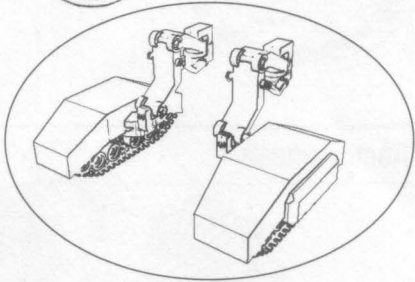
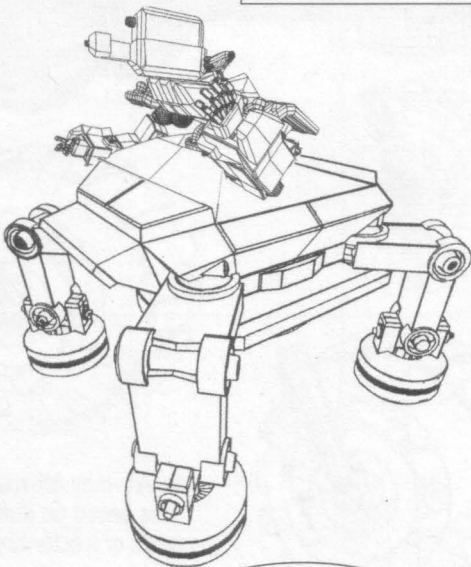
*In general, use dark tone for dark colors and strong colors and light tone for light colors. You should have contrast in at least two places, i.e., dark/light (apply, do not apply, etc.).

In this illustration, the robot's entire body radiates light.

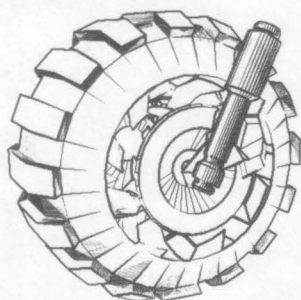
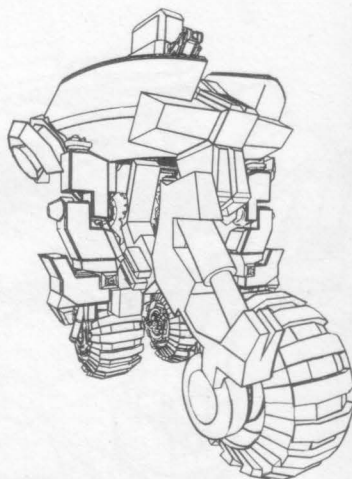
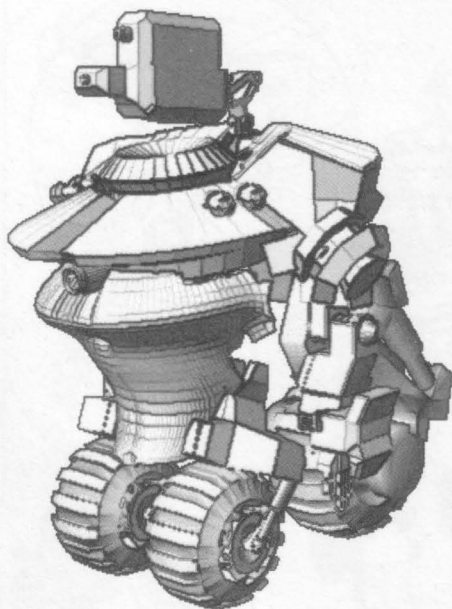
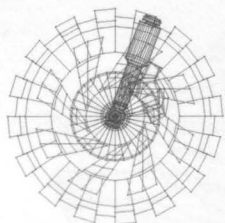
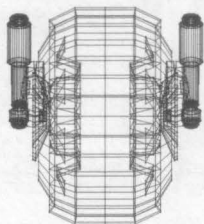
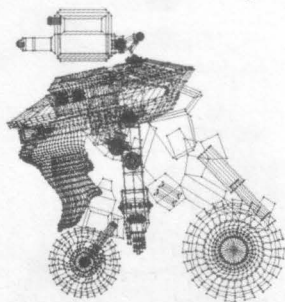
Flames and Backfire

Presentation of eyes

Explosions and Smoke

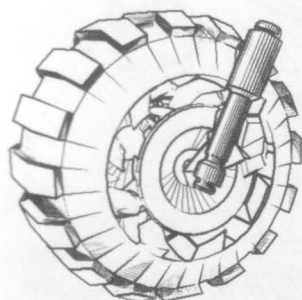
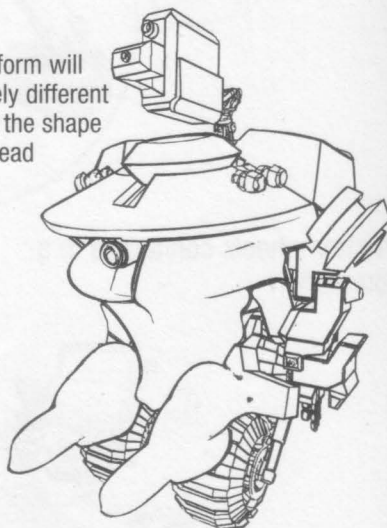
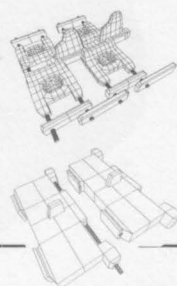
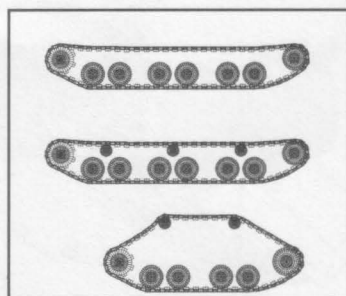
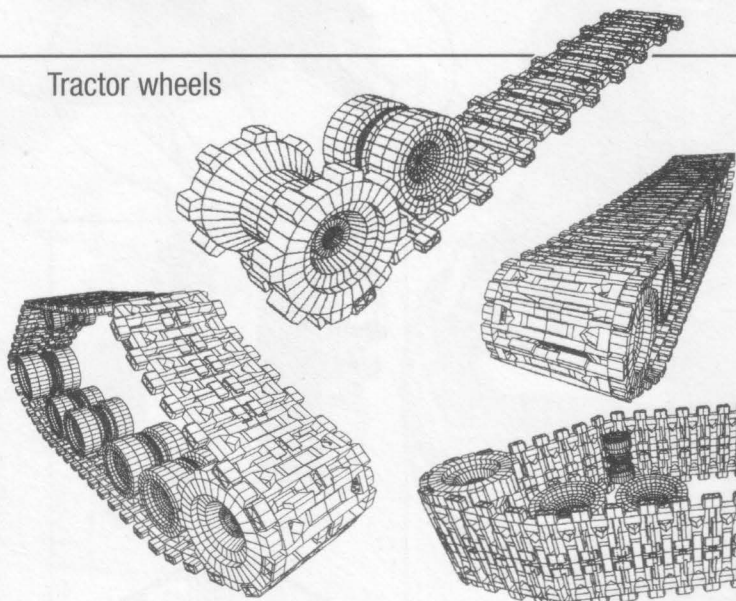
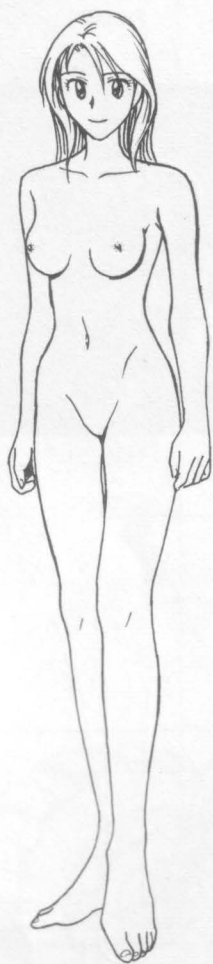
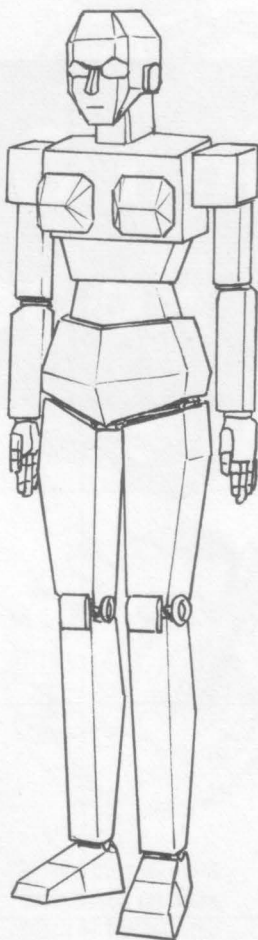
Light at instant of
explosion
Explosion with
smoke
Explosion with
flying dirt

Designing Original Robots

Think about the body parts as you draw. You can create an original robot if you design each individual part and combine them using the three basic views.

Attach Shin Parts

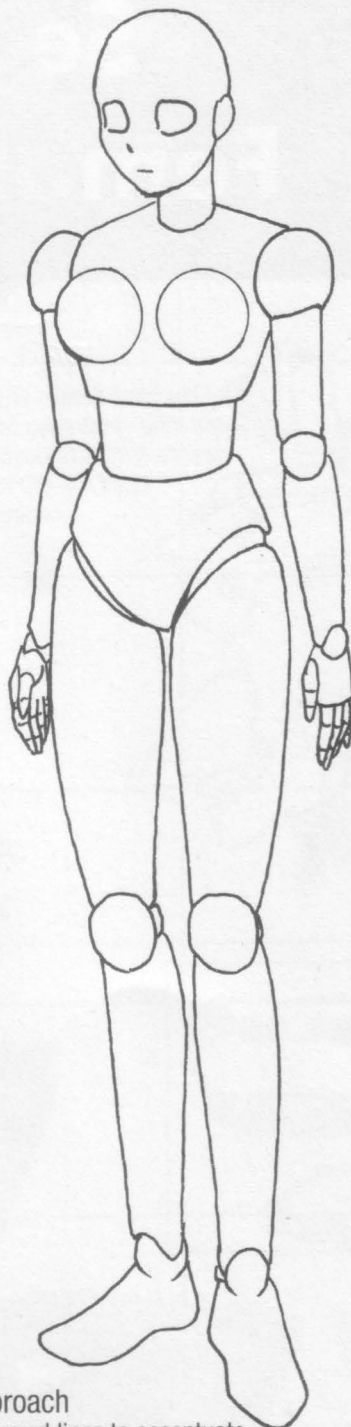
Reinforce legs with hydraulics, armor, flying aids, etc.

The appearance differs depending on the angle.

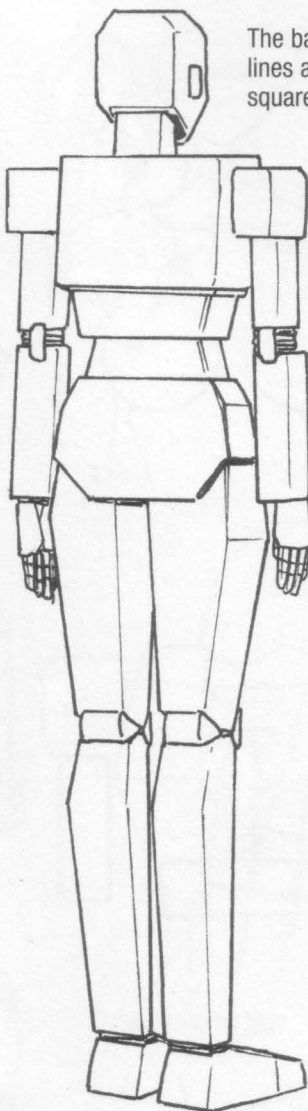
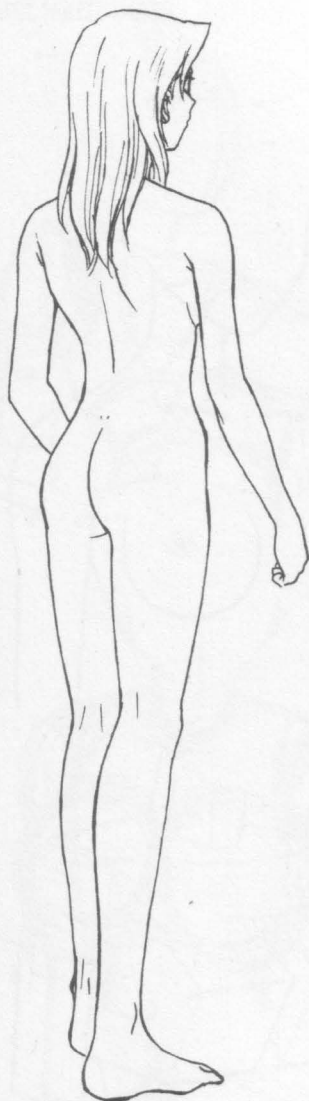
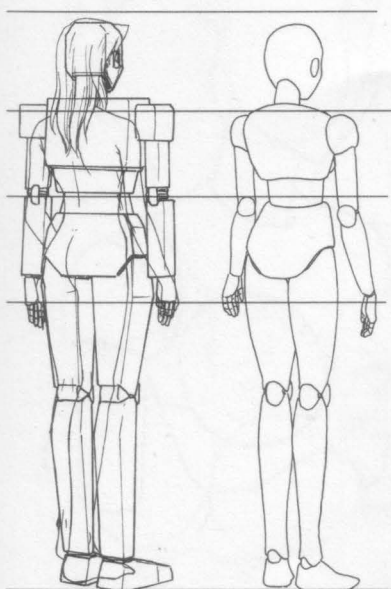
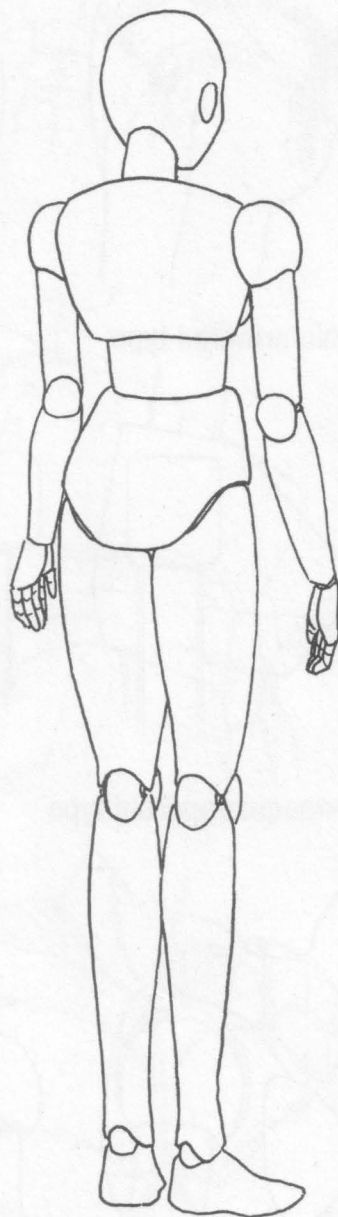
Flying Robots Swap flying devices with the head to emphasize the primary function of the robot.

Use basic parts for the chest and arms.

Attach wings

Wing variations

This design is based on the wings of a moth.

When designing robots that can fly, first consider the basic shape of an airplane. This will make the design appear realistic.

Add Joints to Connect Machines

Connecting a hovercraft

Legs connected to a foundation
Tractor wheels connected to a
foundation

Robots with Tires

Leave the original head and arms. The robot will look like a completely different machine if you put armor on the body and make the lower body a tire mechanism.

Section 3
Female Robots

Designing Body Lines

There are two ways to approach deformation of physical characteristics.

Nude base

Removing roundness

Straight line type. Draw as if the entire body was covered with a combination of iron plates. This creates the look of a classic robot.

To improve the balance, draw the bust a little higher than it would be in real life.

Curved approach

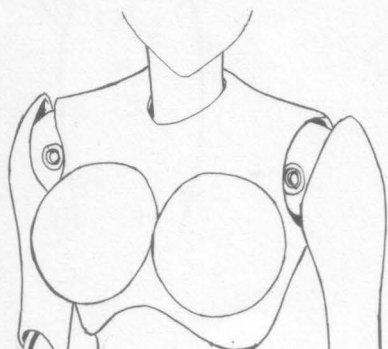
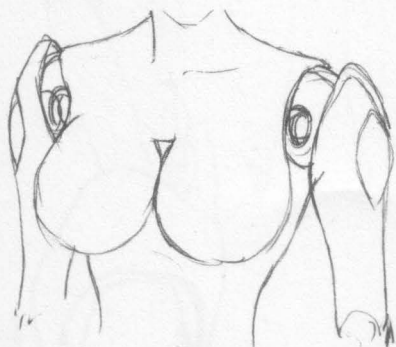
Use mainly curved lines to accentuate the curved surfaces and roundness of the body. Look at mannequins or figurines for inspiration.

The back and bottom of robots drawn with straight lines also have no roundness. Make the shoulders square and the hands and feet like prisms.

The head of a robot with no hair will look small, so raise the shoulders, hips and bottom to improve the balance.

The curved type resembles an artist's sketching mannequin. For a basic design, make the joints and movable parts simple spheres.

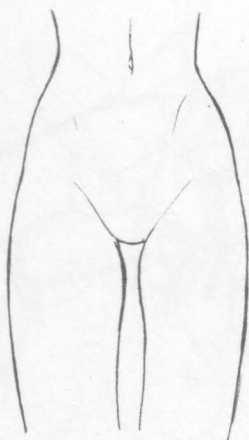
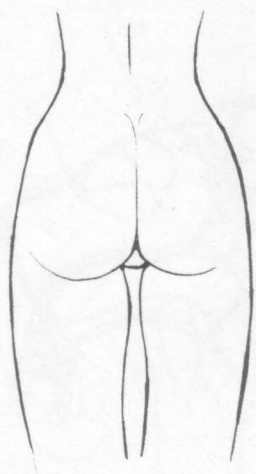
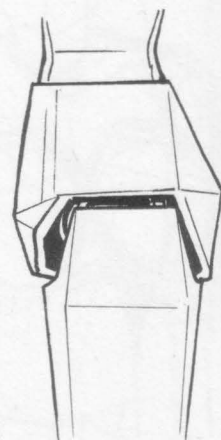
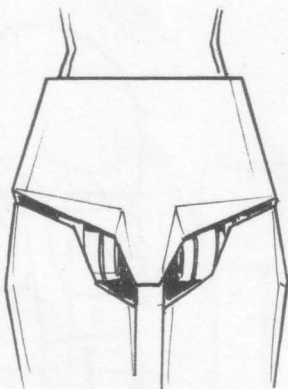
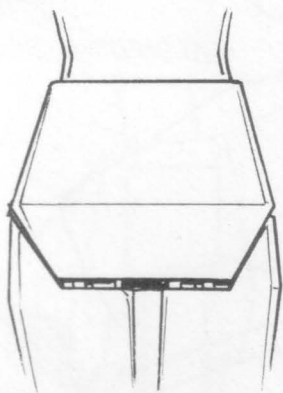
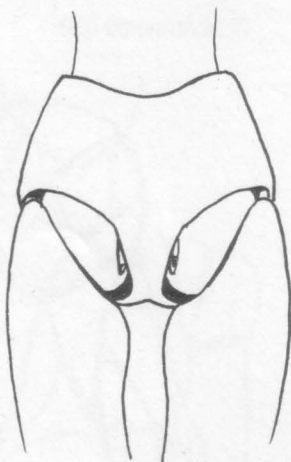
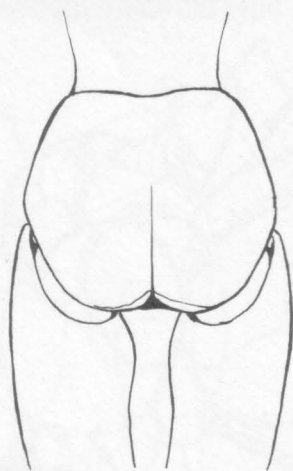
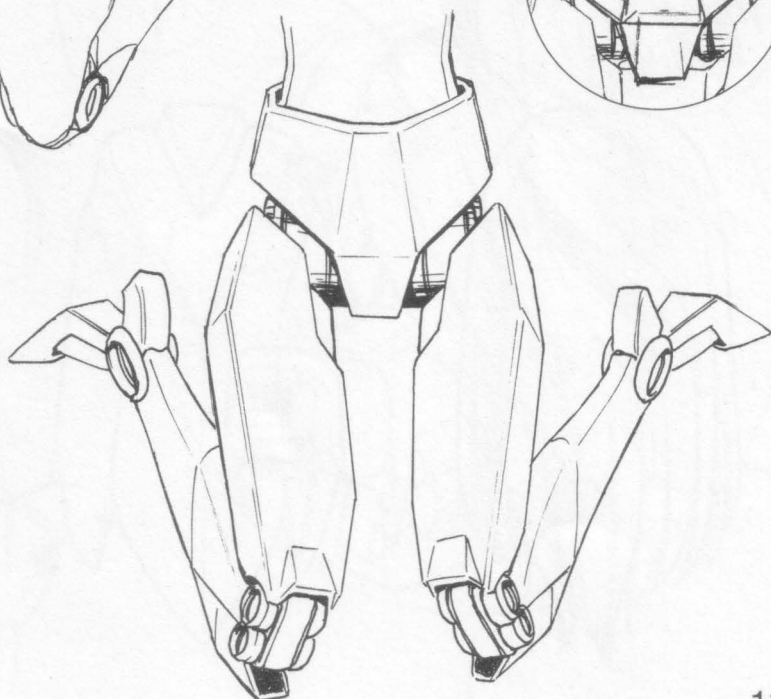
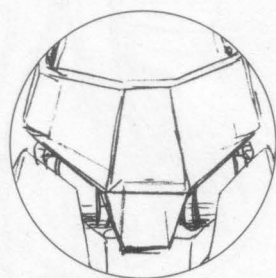
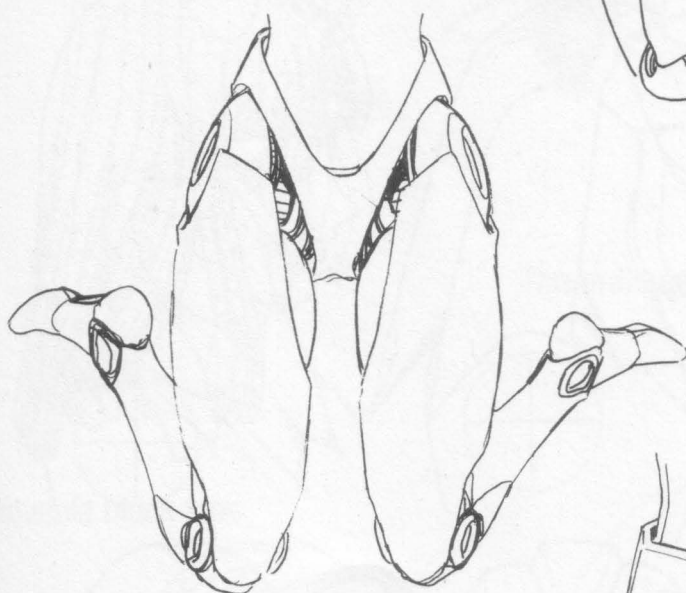
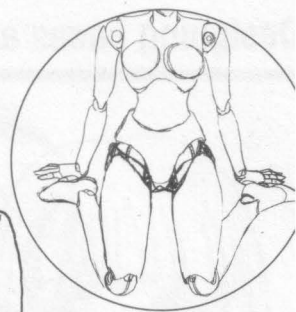
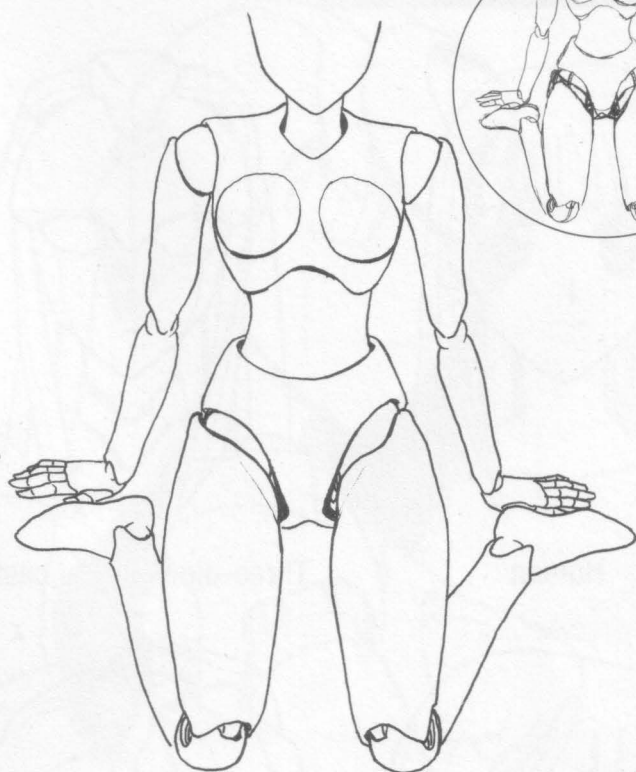
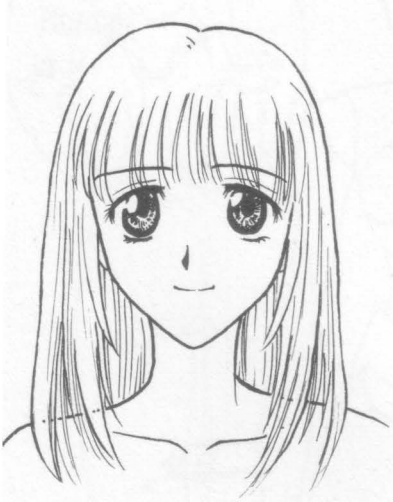
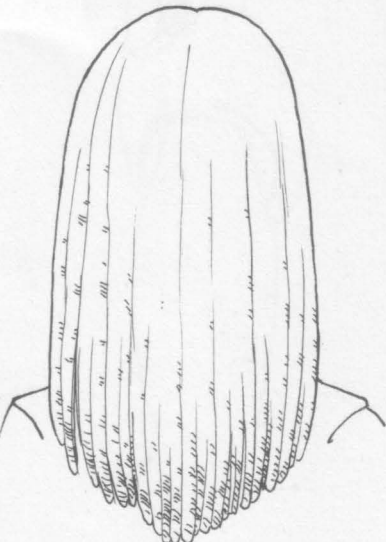
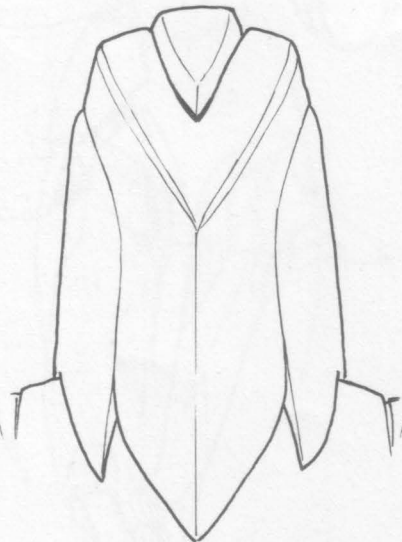
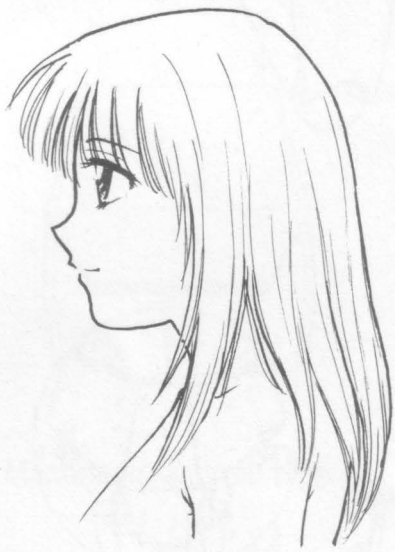
Designing Breasts

Bust Variations

Cubic/armored type

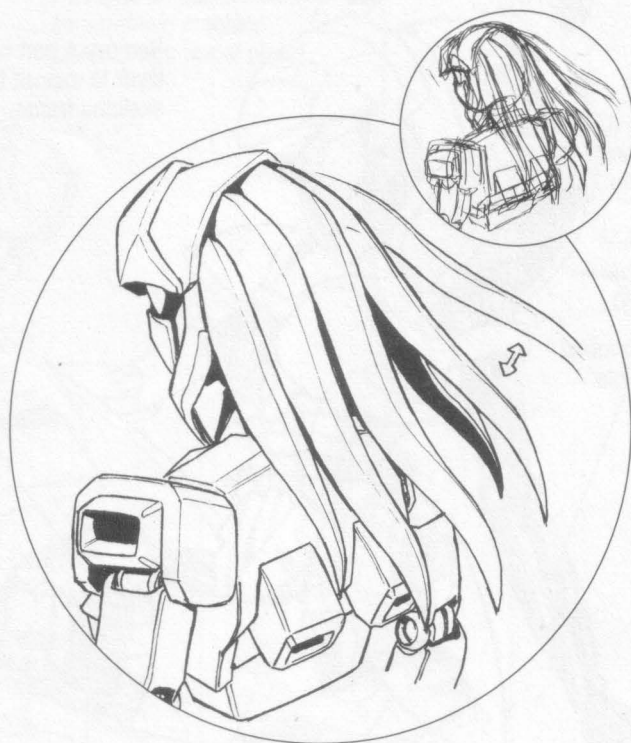
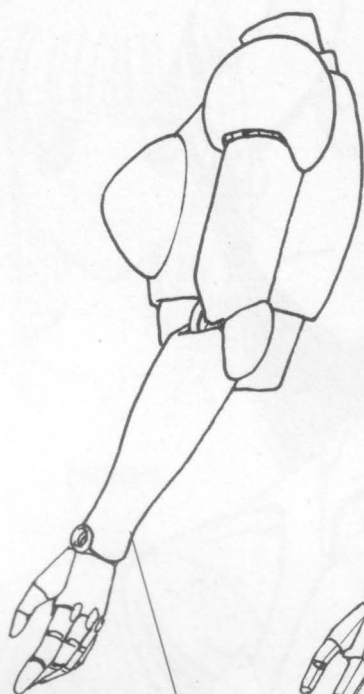
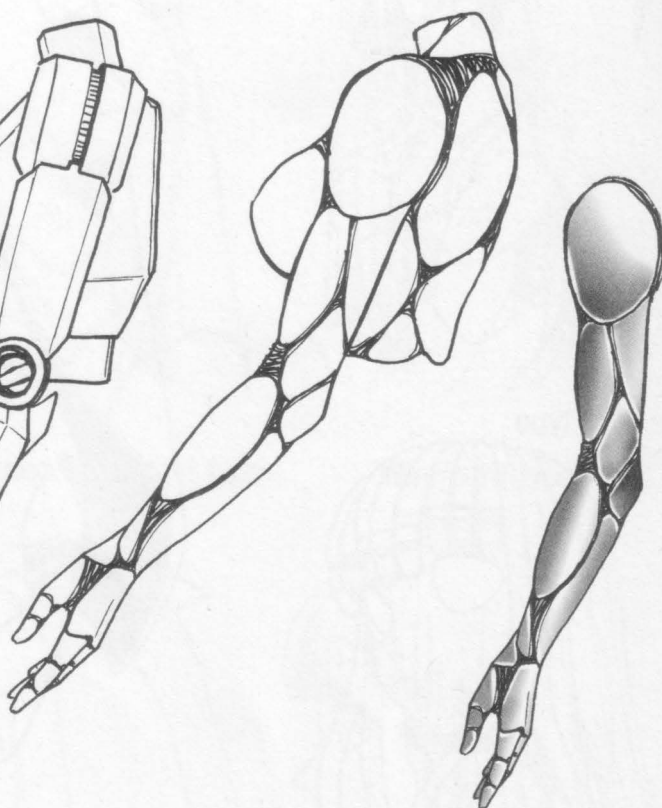
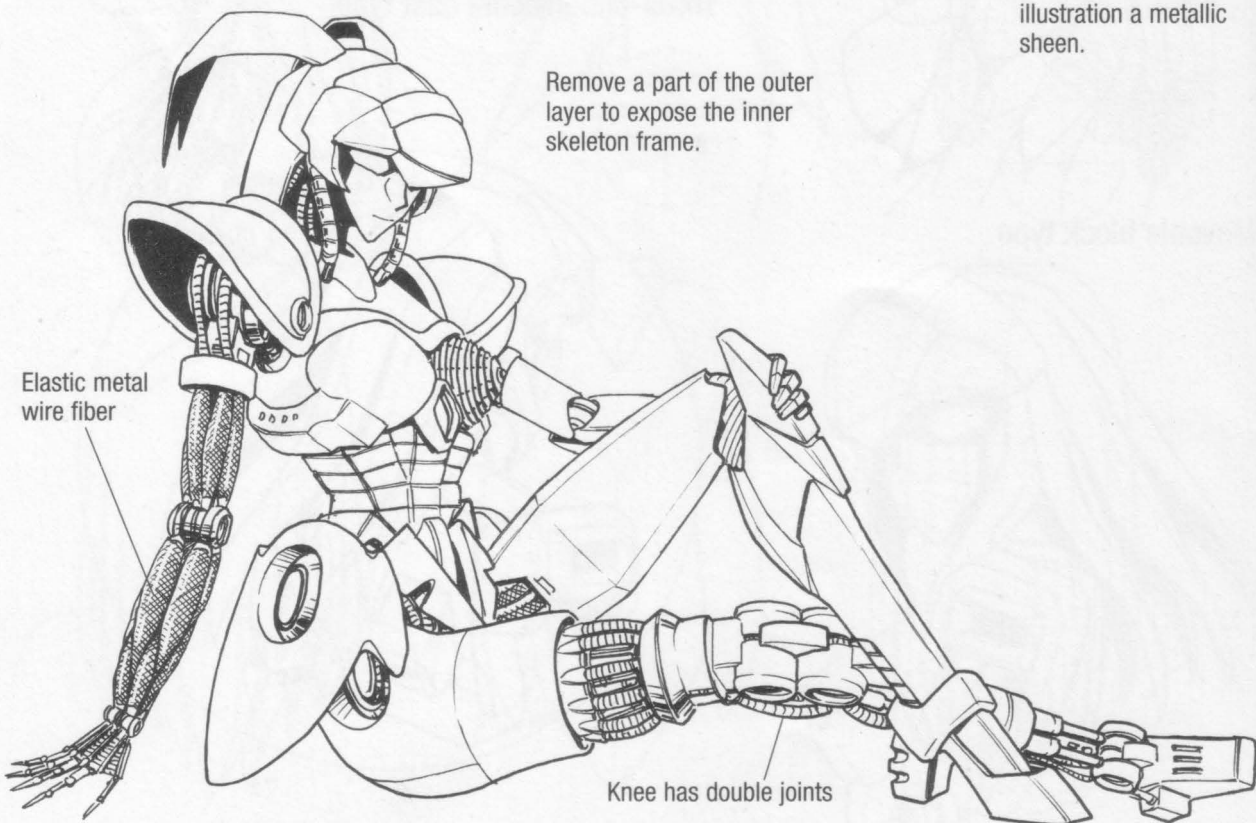
Muscled/biometallic type

Simple mannequin type

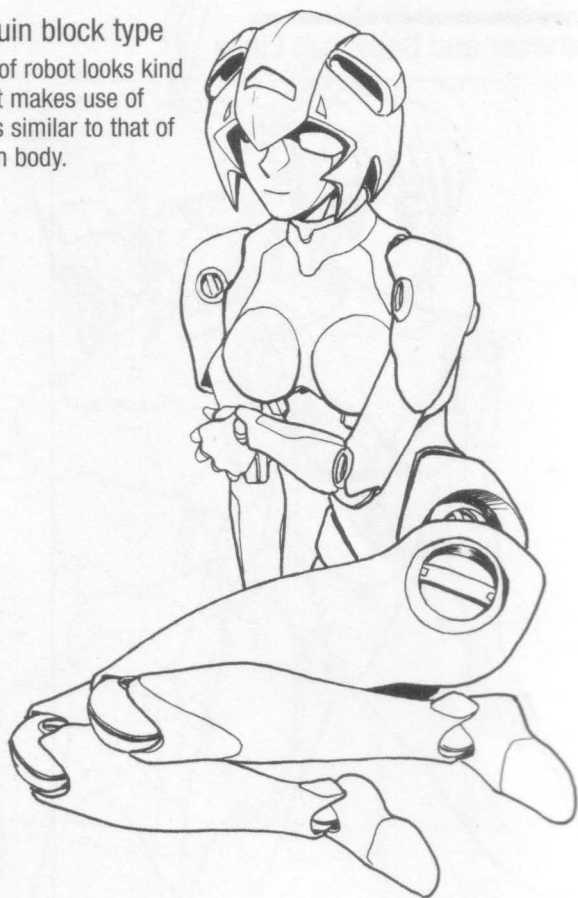
Designing Bottoms

Human

Cubic/armored type

Mannequin/android type

Human
Three-dimensional cast type
Wire/cord type

Human

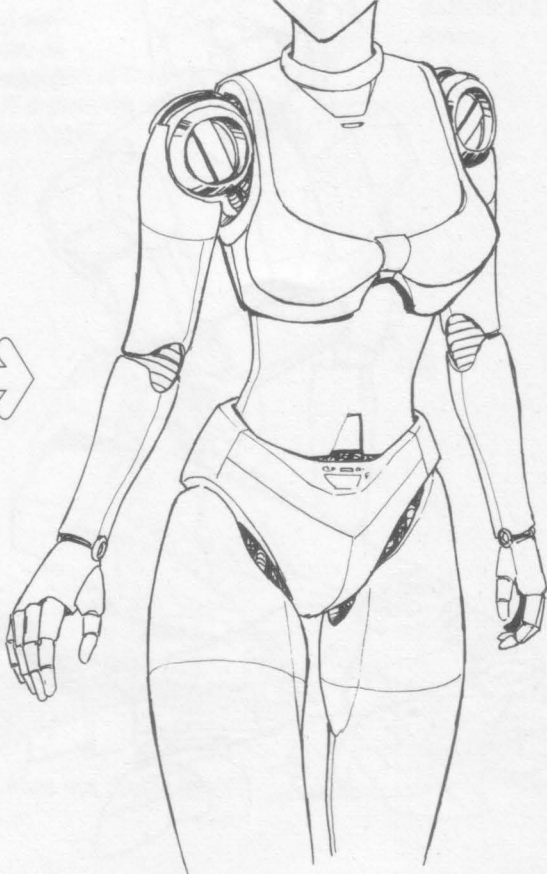
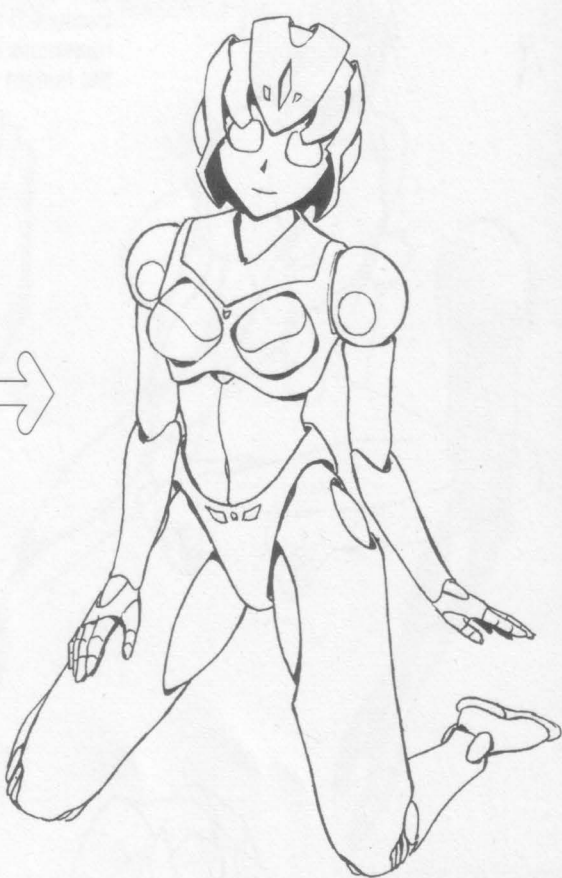
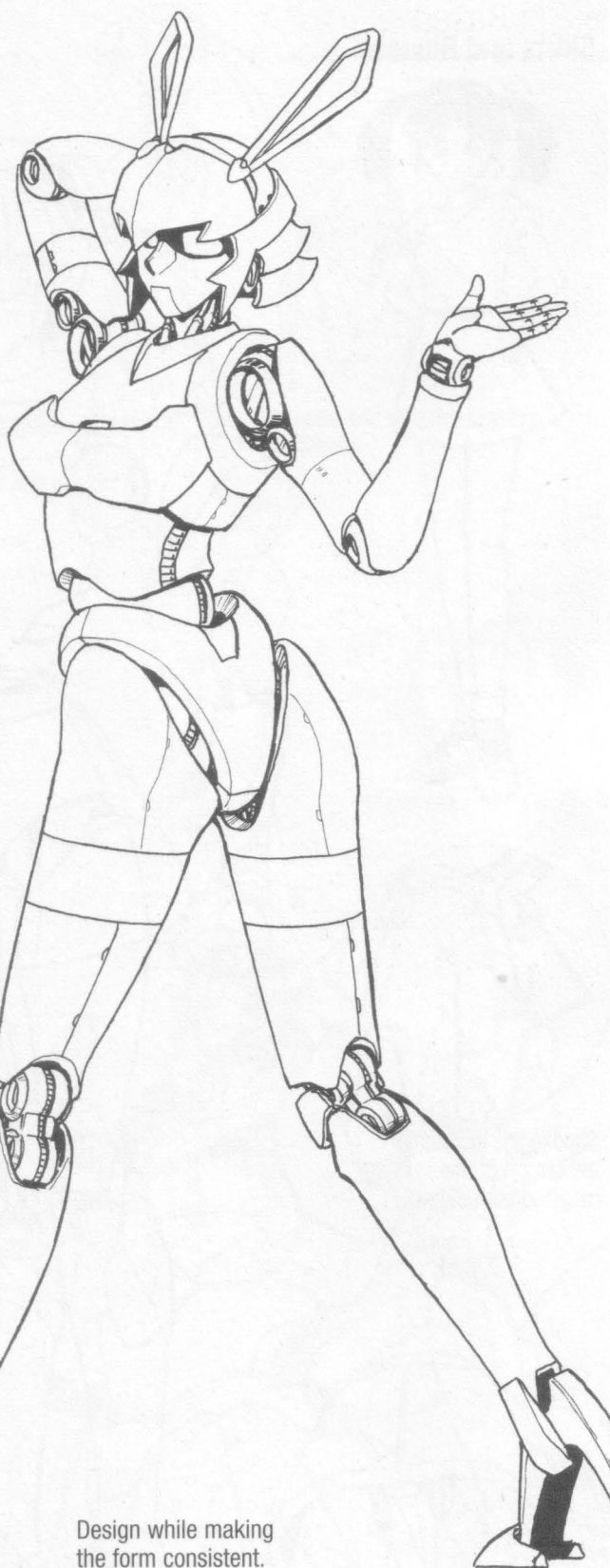
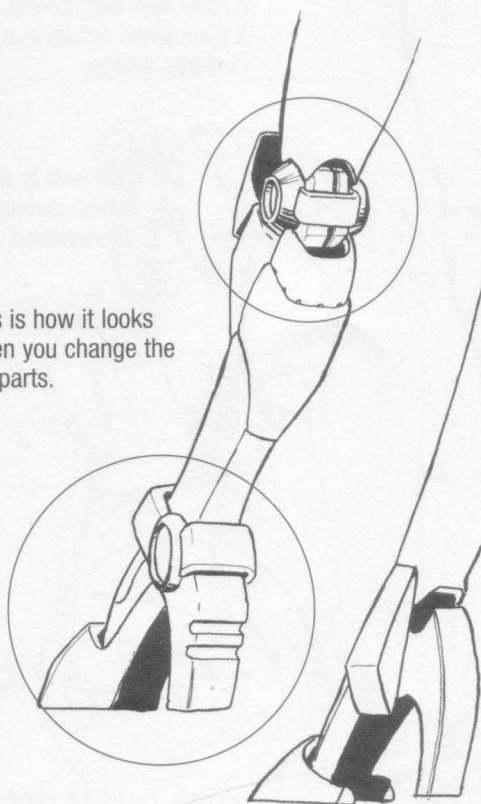
Wire/cord type

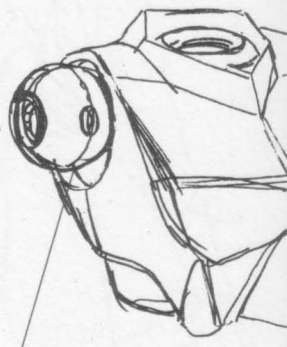
Movable block type

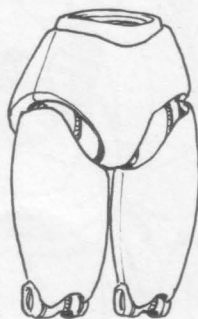
Three-dimensional cast type

Mannequin block type
Robot-like prism type
Metallic muscle type
Think of a metallic cylinder.
Tones give the finished illustration a metallic sheen.
Remove a part of the outer layer to expose the inner skeleton frame.
Elastic metal wire fiber
Knee has double joints

Mannequin block type

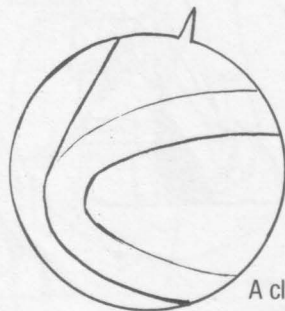
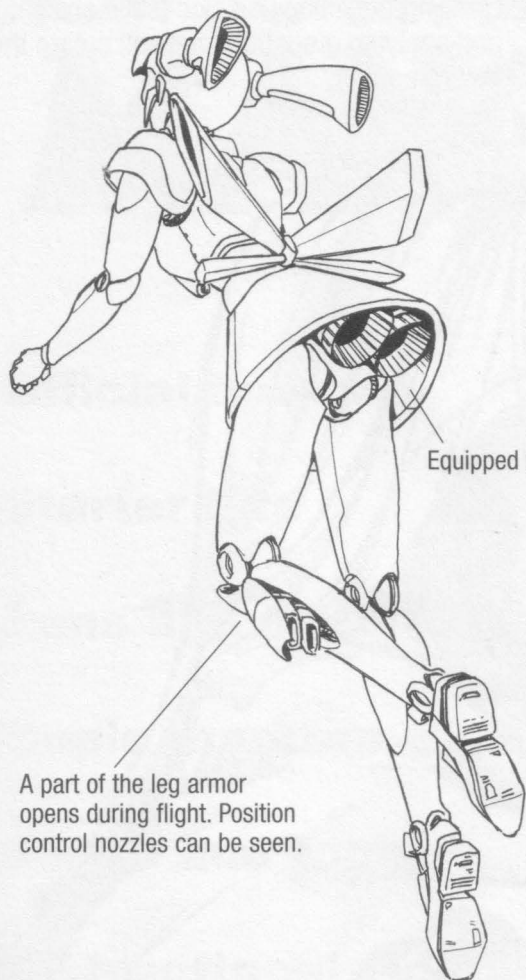
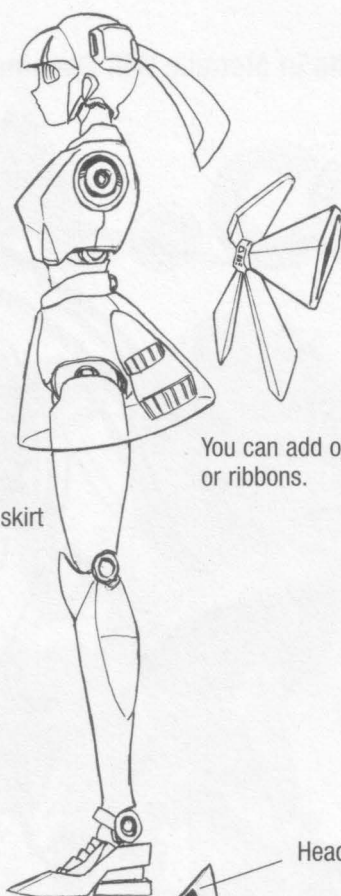
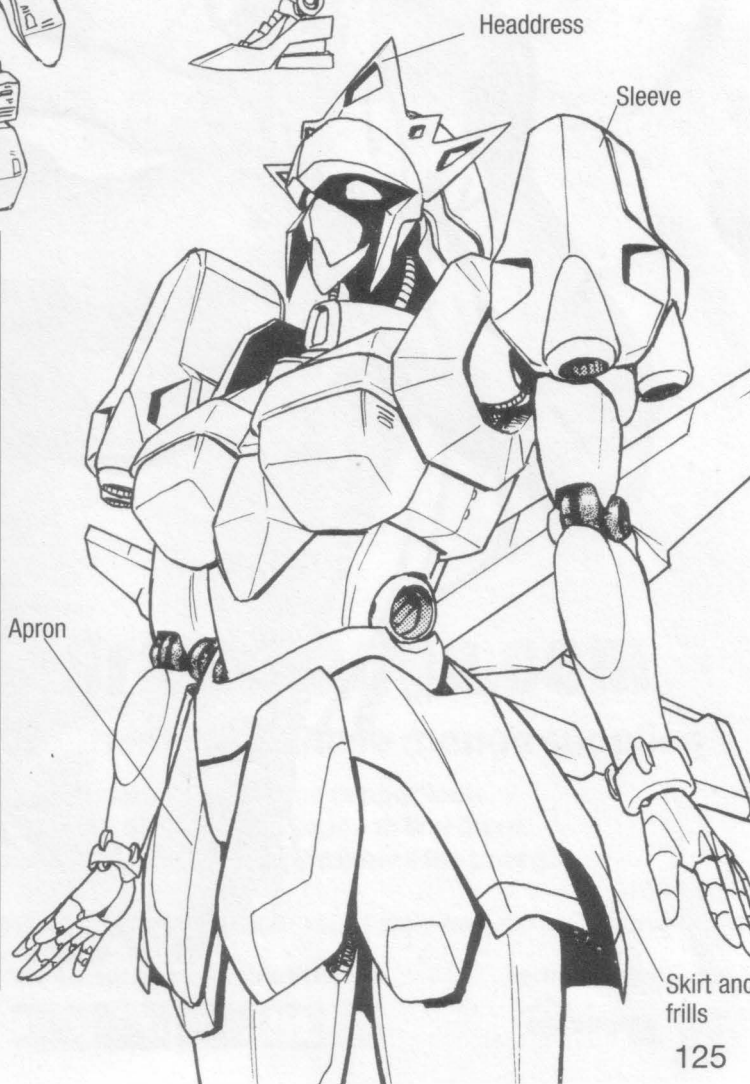
This type of robot looks kind because it makes use of roundness similar to that of the human body.

Robot-like prism type

This type of robot looks like an unrefined machine covered with metal plates.

Underwear and Body Suit Lines

Bunny Girl Motif

Skirts and Blouses

Rough sketch of hair ornament and pigtail

Hole in shoulder joint. Adding holes is a technique to make a robot look mechanical, but it sometimes results in a cluttered design.

Choose the location of the crotch at the rough-sketch stage.

The skirt is an option, which means it can be removed.

In this type the skirt and hips are solid.

A close-up reveals the thickness of the metal.

A robot based on a maid outfit will become a maid robot.

A Character Done in Metallic Will Become a Robot. Drawing reflections on skin (solid shading) and applying gradation tone will create the feel of a robot.

Original illustration

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